INTRODUCTION TO THE CENTRAL MESSAGE SWITCHING AUTOMATIC AN/TYC-39A

INTRODUCTION:

This practical exercise (PE) is divided into two parts. Part one will provide you with the time to practice using the Technical Manuals (TM) and identifying the components of the AN/TYC-39A. In part two, you must correctly answer 14 out of 20 questions on the introduction of the AN/TYC-39A within 45 minutes.

ITEMS YOU WILL NEED FOR THIS LESSON:

Check your work position and make sure you have the following items. If any items are missing, call for an instructor.

a. TM 11-5805-790-12-1 through 12-9
b. TM 11-5805-790-34 through 34-2-3

THE LESSON STRATEGY:

Part one of the PE directs you in your practice of using the TMs and identifying the components of the AN/TYC-39A. Part two directs you to answer 14 out of 20 questions in 45 minutes.

APPLICATION:

1. In Part One, use the diagrams and underlined areas to identify the components of the AN/TYC-39A.

2. Your instructor will initial your PE after you have correctly identified the AN/TYC-39A components.

3. In Part Two, answer multiple choice questions by drawing a circle around the correct answer or fill in the blanks.

4. If it is not clear what you are required to do, ask your instructor for clarification.

5. When you have completed the practical exercise, ask your instructor to grade it for you.

Whenever pronouns or other references denoting gender appear in this document, they are written to refer to either male or female unless otherwise indicated.

PART ONE: Using the roadside view (page 2) and the curbside view (page 3) provided, fill in the equipment name and unit designator (if applicable) in the following spaces.

a. Roadside view

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

(6) _____

(7) _____

(8) _____

(9) _____

(10) _____

(11) _____

(12) _____

(13) _____

(14) _____

(15) _____

(16) _____

(17) _____

(18) _____

(19) _____

(20) _____

(21) _____

(22) _____

(23) _____

(24) _____

(25) _____

(26) _____

(27) _____

(28) _____

(29) _____

(30) _____

b. Curb Side view

(1) _____

(2) _____

(3) _____

(4) _____

(5) _____

(6) _____

(7) _____

(8) _____

(9) _____

(10) _____

(11) _____

(12) _____

(13) _____

(14) _____

(15) _____

(16) _____

(17) _____

(18) _____

(19) _____

PART TWO: Using your technical manuals, answer the following questions by filling in the blanks or choosing the best possible answer by circling the corresponding letter.

1. Name three other systems that the message switch interfaces with?

   a. _____
   b. _____
   c. _____

2. What is the maximum number of subscribers the message switch can hold?

   a. 50
   b. 48
   c. 40
   d. 38

3. How many SDUs are in the message switch not counting the spares?

   a. 2
   b. 4
   c. 6
   d. 8

4. What provides the primary operator/machine interface with the message processors?

   a. LPU
   b. ILI
   c. VDT
   d. MODEM

5. In what Technical Manual would you find remove and replace procedures?

   a. TM 11-5805-790-12-4
   b. TM 11-5805-790-12-5
   c. TM 11-5805-790-12-6
   d. TM 11-5805-790-12-7

6. In what Technical Manual would you find the traffic printouts?

   a. TM 11-5805-790-12-4

b. TM 11-5805-790-12-5
c. TM 11-5805-790-12-6
d. TM 11-5805-790-12-7

7. In what Technical Manual would you find the fault isolation flow charts?

a. TM 11-5805-790-12-6
b. TM 11-5805-790-12-7
c. TM 11-5805-790-12-8
d. TM 11-5805-790-12-9

8. What Technical Manual and paragraph would you find the TRI-TAC line type technical characteristics?

a. TM 11-5805-790-12-1, para 1-38
b. TM 11-5805-790-12-1, para 1-13
c. TM 11-5805-790-12-8, para 12-12
d. TM 11-5805-790-12-8, para 12-11

9. Using the Interconnection Cable Diagram what cable connects FDD A to the cap/controller nest?

a. W210
b. W213
c. W447
d. W501

10. What figure number would you use to find cable W45?

a. 7-16
b. 7-20
c. 7-23
d. 7-33

11. You need to populate the modem nest what Technical Manual and paragraph would you use?

a. TM 11-5805-790-12-1, para 1-38
b. TM 11-5805-790-12-2, para 3-4
c. TM 11-5805-790-12-6, para 7-19
d. TM 11-5805-790-12-6, para 7-24

12. How many telephones are in the switch?

_____

13. How many patch panels are in the message switch?

_____

14. How many processors are there in the message switch?

_____
_____
_____
_____

15. What command is used to configure the device for on-line use?

_____

16. What is the purpose of the message switch?

_____
_____
_____
_____
_____

17. What is the maximum baud rate for TRI-TAC line type III?

a. 150
b. 300
c. 4800
d. 16,000

18. Describe AUTODIN Mode IV circuit mode.

_____
_____
_____

19. The message switch performs its functions based on software instructions from the _____.

20. What are the two types of signal cables that are connected to the shelter through the signal entry panel?

_____

SUMMARY:

You have just demonstrated your ability to identify the AN/TYC-39A components.

POWER INITIALIZATION OF THE AN/TYC-39A

INTRODUCTION:

This practical exercise (PE) is divided into two parts. Part one will provide you with the time to practice performing power initialization of the AN/TYC-39A within 25 minutes. In part two you must correctly answer 7 out of 10 questions on the power group of the AN/TYC-39A, within 30 minutes.

ITEMS YOU WILL NEED FOR THIS LESSON:

Check your work position and make sure you have the following items. If any items are missing, call for an instructor.

a. TM 11-5805-790-12-1 through 12-9.
b. TM 11-5805-790-34 through 34-2-3.
c. AN/TYC-39A.

THE LESSON STRATEGY:

Part one of the PE directs you in your practice of performing power initialization of the AN/TYC-39A within 25 minutes. Part two directs you to answer 7 out of 10 questions in 30 minutes.

APPLICATION:

1. In Part One, perform power initialization within 25 minutes of the AN/TYC-39A using TM 11-5805-790-12-1 paragraph 2-25, page 2-44.

2. Your instructor will initial your PE after you correctly perform power initialization.

3. In Part Two, answer multiple choice questions by drawing a circle around the correct answer or fill in the blanks.

4. If it is not clear what you are required to do, ask your instructor for clarification.

5. When you have completed the practical exercise, ask your instructor to grade it for you.

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PART ONE: Using TM 11-5805-790-12, paragraph 2-25, page 2-44, practice performing power initialization.

1. Perform system shutdown checks.

   a. Were any circuit breakers left on? _____

   b. Were any lights left on? _____

   c. Were any of the devices left on. _____

2. Perform power initialization.

   a. What does Phase Select "A" read? _____

   b. What does Phase Select "B" read? _____

   c. What does Phase Select "C" read? _____

   d. What does the BUS VOLTAGE read? _____

   e. What is the FLOAT CHARGE reading? _____

   f. What is the DC CURRENT meter reading? _____

NOTE: **Equalizing Charge** will need to be done when in the field or unit, but here at the school there are no batteries in the system.

PART TWO: Answer 7 out of 10 questions in 30 minutes.

1. How many batteries are in the system?

   a. 2
   b. 3
   c. 4
   d. 6

2. What is the bus voltage?

   a. 26 to 28 VDC
   b. 26 to 28 VAC

c. 115 VAC
d. 28 AMPS

3. The _____ turns on the dc power subsystem and lights to show the DC power is on.

4. Where are CB11 and CB12 located? _____

5. What indicates that the ac input power to the van is correct?

a. PHASE FAULT
b. PHASE SELECT
c. PHASE SEQUENCE
d. POWER ALARM

6. What PS powers the central processor group?

a. PS 14,15
b. PS 4,5
c. PS 6,7
d. PS 11,12

7. Identify the following acronyms:

PPF _____

POF _____

ECU _____

PWR _____

PS _____

8. When the shelter is occupied and the door is closed; why is the door port opened?

_____

9. During power initialization it instructs you to push in the Control AC ϕA, ϕB, ϕC circuit breakers. What does the ϕ mean?

a. AC power
b. Phase
c. Circuit Breaker
d. DC power

10. What should the DC CURRENT METER reading be for each setting?

a. 28 volts
b. 26 volts
c. 25 amps
d. 28 amps

SUMMARY:

You have just demonstrated your knowledge on power initialization and your ability to perform power initialization.

AN/TYC-39A POWER GROUP

INTRODUCTION:

This practical exercise (PE) is divided into two parts. Part one will provide you with the time to practice performing power supply adjustments of the AN/TYC-39A. In part two you must correctly answer 14 out of 20 questions on the power group of the AN/TYC-39A within 45 minutes.

ITEMS YOU WILL NEED FOR THIS LESSON:

Check your work position and make sure you have the following items. If any items are missing, call for an instructor.

a. TM 11-5805-790-12-1 through 12-9.
b. TM 11-5805-790-34 through 34-2-3.
c. AN/TYC-39A.
d. Multimeter.
e. Tool kit.

THE LESSON STRATEGY:

Part one of the PE directs you in your practice of performing power supply adjustments of the AN/TYC-39A. Part two directs you to answer 14 out of 20 questions in 45 minutes.

APPLICATION:

1. In Part One, use the equipment provided and make the necessary power supply adjustments of the AN/TYC-39A.

2. Your instructor will initial your PE after you correctly perform power supply adjustments.

3. In Part Two, answer multiple choice questions by drawing a circle around the correct answer or fill in the blanks.

4. If it is not clear what you are required to do, ask your instructor for clarification.

5. When you have completed the practical exercise, ask your instructor to grade it for you.

Whenever pronouns or other references denoting gender appear in this document, they are written to refer to either male or female unless otherwise indicated.

PART ONE: Perform the following adjustments on the AN/TYC-39A Power Group.

1. Central Processor group power supply (PS14,PS15). TM 11-5805-790-12-7, paragraph 10-12 (c), page 10-31 .

2. Power Processor (PS4,PS5,PS6,PS7). TM 11-5805-790-12-7, paragraph 10-58 (c), page 10-207.

NOTE: The regulator charger has power adjustments that should only be performed if there is a problem or a component of the regulator charging unit has been replaced.

PART TWO: Answer 14 out of 20 questions correctly in 45 minutes.

1. What terminal on the L-3050V is used for dc return?
_____

2. What pin of what terminal board is between PS5 and the dc input for PS5?
_____

3. What plug and what pin is used for input power to VDTB?
_____

4. What plug and what pin is used for input power to SDS2?
_____

5. What plug and what pin is used for input power to the A63 Blower?
_____

6. What plug and what pin is used for input power to LPUB?
_____

7. What pin of what jack is used for phase B output to ECU2?
_____

8. What circuit breaker turns also turns on the battery box fan?
_____

9. What pin of Terminal Board 1 of E42 Assembly provides +15 Vdc to the controller nest?
_____

10. What pins on CB1 of A25 DLC/ILI Nest carry -12 Vdc to the multibus?

    _____

11. What is the maximum current for the circuit breaker that provides power to SDS3?

    _____

12. What plug and what pin is used for ac input power to the HGF-83?

    _____

13. How does the Modem/TDIGM nest get its +12 Vdc?

    _____

    _____

14. What is TB1 of E41 assembly used for?

    _____

15. What type of power is found on pins 3 and 4 of Terminal Board 1 inside of PS30 (used for intercom)?

    _____

16. What plug and what pin is used for dc return of FDDA?

    _____

17. Where does 5 Vdc connect to the controller nest?

    _____

18. What plug and what pin is used for -15 Vdc output of PS5?

    _____

19. How does the DLC nest (A and B) multibus get its 12 Vdc? Explain.

    _____

    _____

    _____

20. In the power entry panel, what jack and what pin is used for phase C input?

    _____

SUMMARY:

You have just demonstrated your knowledge on the power group and your ability to perform power adjustments.

AN/TYC-39 POWER GROUP FAULT ISOLATION AND REPAIR

INTRODUCTION:

This practical exercise is divided into two parts. In Part One your learning objective is to isolate and repair faults in the Power Group within 30 minutes per fault. In Part Two, you must correctly answer 7 out of 10 questions pertaining to Power Group fault isolation and repair procedures within 30 minutes.

ITEMS YOU WILL NEED FOR THIS LESSON:

Check your work position and make sure that you have the following items. If any are missing, call your instructor.

a. AN/TYC-39A.
b. TM 11-5805-790-12-4.
c. TM 11-5805-790-12-6.
d. TM 11-5805-790-12-7.
e. TM 11-5805-790-12-8.
f. Digital multimeter.

THE LESSON STRATEGY:

Part One of this practical exercise directs you to isolate and repair faults in the Power Group. In Part Two, you are directed to answer questions pertaining to Power Group fault isolation and repair procedures. The primary aids you will use are TM 11-5805-790-12-7 and TM 11-5805-790-12-8.

APPLICATION:

1. In Part One, utilize the TMs to perform fault isolation procedures, as directed and correct faults in the Power Group.

2. Have your instructor evaluate you as you perform each step and initial your worksheet when you have successfully corrected each fault.

3. In Part Two, to answer the questions, circle the correct answer.

4. When you have completed Part Two of the practical exercise, have your instructor grade it for you.
5. If it is not clear what you are required to do, ask your instructor for clarification.

Whenever pronouns or other references denoting gender appear in this document, they are written to refer to either male of female unless otherwise indicated.

PART ONE:

1. What is the symptom?

   a. What connector led you to the fault?

   b. What was the fault and what did you do to correct it?

   c. What were your references?

   Instructor's initials:_____

2. What is the symptom?

   a. What connector led you to the fault?

   b. What was the fault and what did you do to correct it?

   c. What were your references?

   Instructor's initials:_____

3. What is the symptom?

   a. What connector led you to the fault?

   b. What was the fault and what did you do to correct it?

   c. What were your references?

   Instructor's initials:_____

4. What is the symptom?

   a. What connector led you to the fault?

   b. What was the fault and what did you do to correct it?

   c. What were your references?

   Instructor's initials:_____

PART TWO:

1. Where is the first place to look for information when a power fault occurs?

   a. CAP
   b. Power control panel
   c. VDT and LPU
   d. None of the above.

2. Which of the following alarms indicates a power fault?

   a. BAT
   b. DCP
   c. PPF
   d. All of the above.
   e. None of the above.

3. You should leave an audible alarm on while performing FI.

   a. True
   b. False

4. If you have a PPF alarm, what connector in the flow chart are you directed to follow?

   a. 8A
   b. 9A
   c. 9B
   d. 11A

5. While following the flow chart for a PPF fault, you find that PS7 has the OVERTEMP light on. What is the next "decision" the flow chart asks you to make?

   a. Blower operating normally.
   b. Output voltage correct.
   c. Output present, but not in tolerance.
   d. Redundant DC to DC converters failed.

6. The MAIN POWER breaker is OFF and will not stay on. While following the fault isolation flow chart, you are directed to:
   a. Replace the MAIN POWER breaker.
   b. Check CB13.
   c. Go to IL Maintenance.
   d. None of the above.

7. While performing power FI, you get a BAT alarm. The MAIN POWER, REGULATOR CHARGER, and MAINTENANCE breakers are all ON. What reading are you asked to check at the power control panel?

   a. DC charge current.
   b. Phase reading.
   c. HOURS meter.
   d. All of the above.

8. While troubleshooting a DCP alarm all three CONTROL AC breakers are on, the 24 VDC is present and there is continuity. What card should you replace?

   a. CAPA.
   b. CAPB.
   c. CAPC.
   d. ISOL.

9. While troubleshooting an AIR alarm, you find that the ECU fans are not running and the ECU breakers will not stay on. What are you directed to do?

   a. Replace the ECU circuit breaker assembly.
   b. Replace the ECUs.
   c. Refer to TM 5-4120-367-14.
   d. Refer to IL Maintenance.

10. While troubleshooting a DCP alarm, circuit breaker ϕB will not stay on. What should you check next?

   a. 24 VDC power supply.
   b. AC line filter.
   c. K1 phasing relay.
   d. Wiring problem.

PROCESSOR STARTUP PROCEDURES

INTRODUCTION:

This performance exercise allows you to check and reinforce your understanding of AN/TYC-39A Processor Startup procedures. Your objective is to correctly answer at least 14 out of 20 questions within 1 hour.

ITEMS YOU WILL NEED FOR THIS EXERCISE:

Check your work position and make sure that you have the following items. If any are missing, call your instructor.

a. TM 11-5805-790-12-1.
b. Student handout.

THE LESSON STRATEGY:

1. You will have 1 hour in which to complete this performance exercise. Mark your answers directly on the performance exercise.

2. When you have completed this performance exercise, turn it into your instructor.

3. If there are no questions you may begin.

APPLICATION:

1. Using TM 11-5805-790-12-1 and the student handout, answer the 20 questions on the practical exercise provided.

2. When you have completed the exercise have your instructor grade it for you.

3. If it is not clear what you are required to do, ask your instructor for clarification.

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EXERCISE:

1. What is the purpose of the BOOTSTRAP program during processor startup?

   _____

2. The left PROGRAM TEST thumbwheel is used to configure which device?

   _____

3. What position should the floppy disk slide device be in for a OPL1 diskette?

   _____

4. Which VDT is normally used as the Supervisory display?

   _____

5. Define the meaning of each label on the following screen display message:

   SVOP LPU SBY A 16

   SVOP: _____
   LPU: _____
   SBY: _____
   A: _____
   16: _____

6. Which mode is the processor in when the screen message **ddd tttt NEXT JOB = ????** is displayed?

   _____

7. Which command is normally used to bring the processor on-line from the **NEXT JOB = ????** prompt?

   _____

8. Which boot devices cannot be used for PLD?

   _____

9. Which command takes the processor out of stall cycle?

   _____

10. What command is used to startup the second processor with the first processor in an off-line/standby status?

    _____

11. For normal operation, how are the four SDUs assigned?

    _____

12. Which device is specified with an octal device address of 45?

_____

13. Before putting channels in service after processor startup, what must be done on the LKG patch panels?

_____

14. What does the command **ABCY D** stand for?

_____

15. What format is the year and daytime entered in the system?

_____

16. What character must always terminate a password?

_____

17. During normal processor startup, when are devices entered in response to the following screen display message?

LIST DEVICES TO BE IGNORED

_____

18. What is the correct operator response for the startup error message **CAP ERROR - ITR**

_____

19. What step must be completed within 5 seconds after the DIAGNOSE STATUS changes to 000000?

_____

20. When loading the bootstrap program, what does a DIAGNOSE STATUS display of 777007 indicate?

_____

AN/TYC-39A COMMANDS

INTRODUCTION:

This performance exercise allows you to check and reinforce your understanding of the AN/TYC-39A commands. Your objective is to correctly answer at least 7 out of 10 questions within 30 minutes.

ITEMS YOU WILL NEED FOR THIS LESSON:

Check your work position and make sure that you have the following items. If any are missing, call your instructor.

TMs 11-5805-790-12-2, 3, 5.

THE LESSON STRATEGY:

1. You will have 30 minutes in which to complete this performance exercise. Mark your answers directly on the performance exercise.

2. When you have completed this performance exercise, turn it into your instructor.

3. If there are no questions you may begin.

APPLICATION:

1. Using TMs 11-5805-790-12-2, 3, 5 answer the 10 questions on the practical exercise provided.

2. When you have completed the exercise have your instructor grade it for you.

3. If it is not clear what you are required to do, ask your instructor for clarification.

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EXERCISE:

1. What areas of operation are commands broken into?

2. What are the two access commands that determine user types and their authorizations?

3. What command determines whether messages are processed?

4. Which command allows you to put a channel in-service by channel number?

5. Which command allows you to connect a device to the off-line processor?

6. Which command makes a device available for on-line use?

7. What would be the command line to loopback channel 20 at the modem?

8. Which command would allow you to request a detailed channel status?

9. Which command would initialize an SDU?

10. Which command is used for copying a floppy disk?

SUMMARY:

You have just demonstrated your ability to identify the use and format of the AN/TYC-39A commands.

AN/TYC-39A VISUAL DISPLAY TERMINAL OPERATIONS

INTRODUCTION:

In this practical exercise your learning objective is to correctly answer 7 out of 10 written questions pertaining to the AN/TYC-39A Visual Display Terminal within 30 minutes.

ITEMS YOU WILL NEED FOR THIS LESSON:

Check your work position and make sure that you have the following items. If any are missing, call your instructor.

a. TM 11-5805-790-12-1.
b. TM 11-5805-790-12-2.
c. TM 11-5805-790-12-3.
d. TM 11-5805-790-12-4.

THE LESSON STRATEGY:

This practical exercise directs you to answer written questions pertaining to the AN/TYC-39A Visual Display Terminal. The primary aid you will use is TM 11-5805-790-12-1.

APPLICATION:

1. Write the correct answer in the space provided below each question.

2. Use TM 11-5805-790-12-2 through 4 series as your references.

3. If it is not clear what you are required to do, ask your instructor for clarification.

4. When you have completed the practical exercise, ask your instructor to grade it for you.

Whenever pronouns or other references denoting gender appear in this document, they are written to refer to either male or female unless otherwise indicated.

EXERCISE:

1. What components does the VDT consist of?

   _____

2. What are the main operating functions of the VDTs?

   _____

   _____

   _____

3. The video display screen is a matrix consisting of what components?

   _____

4. What is meant when a portion of the screen is defined as a protected area?

   _____

5. When data entry is complete, what key is used to transmit data to the processor?

   _____

6. Which key is used to unlock the keyboard and clear all unprotected data on the screen?

   _____

7. All data to be input to the VDT starts at what screen position?

   _____

8. Pressing XMIT results in an unsuccessful transmission of a command. What key must be pressed in order to retry the command?

   _____

9. What would cause the XMIT RQST indicator to remain lit after pressing the XMIT key on the VDT?

   _____

10. When the VDT is serving the off-line/standby or TSF function and the entire screen is filled with data, what blinking query is displayed in the system control partition?

    _____

AN/TYC-39A LINE PRINTER UNIT (LPU)

INTRODUCTION:

This performance exercise allows you to check and reinforce your understanding of the AN/TYC-39A Line Printer Unit (LPU). Your objective is to correctly answer at least 7 out of 10 questions within 30 minutes.

ITEMS YOU WILL NEED FOR THIS EXERCISE:

Check your work position and make sure that you have the following items. If any are missing, call your instructor.

TM 11-5805-790-12-1

THE LESSON STRATEGY:

1. You will have 30 minutes in which to complete this performance exercise. Mark your answers directly on the performance exercise.

2. When you have completed this performance exercise, turn it into your instructor.

3. If there are no questions you may begin.

APPLICATION:

1. Using TM 11-5805-790-12-1 answer the 10 questions on the practical exercise provided.

2. When you have completed the exercise have your instructor grade it for you.

3. If it is not clear what you are required to do, ask your instructor for clarification.

Whenever pronouns or other references denoting gender are appear in this document, they are written to refer to either male or female unless otherwise indicated.

EXERCISE:

1. Before loading paper, the LPU must be placed in what status?

   _____
   _____

2. What does a colored stripe on the paper indicate?

   _____
   _____

3. What conditions would cause the FLT indicator (red) to illuminate?

   _____

4. When does the PPR indicator (amber) illuminate?

   _____

5. What results from holding the FF/TST switch in the TST position?

   _____
   _____

6. What connection is used to input data signals to the LPU?

   _____
   _____

7. What connection is used to supply power to the LPU?

   _____
   _____

8. Light printing would indicate incorrect adjustment of which LPU control?

   _____
   _____

9. What two controls are used to supply input power to the LPU?

   _____
   _____

10. When the FF/TST switch is held in the FF position, what position is the paper advanced to?

    _____

SUMMARY:

You have just demonstrated your ability to describe the AN/TYC-39A security enhancements.

AN/TYC-39A VISUAL DISPLAY TERMINAL AND LINE PRINTER UNIT FAULT ISOLATION

INTRODUCTION:

In this practical exercise your learning objective is to isolate two out of three faults and correctly answer 14 out of 20 written questions pertaining to the AN/TYC-39A Visual Display Terminal and Line Printer Unit within 1 hour.

ITEMS YOU WILL NEED FOR THIS EXERCISE:

Check your work position and make sure that you have the following items. If any are missing, call your instructor.

a. TM 11-5805-790-12-1.
b. TM 11-5805-790-12-6.
c. TM 11-5805-790-12-7.
d. TM 11-5805-790-12-8.
e. TM 11-5805-790-34 series.

THE LESSON STRATEGY:

This practical exercise directs you to answer written questions and isolate faults pertaining to the AN/TYC-39A Visual Display Terminal and Line Printer Unit. The primary aid you will use is TM 11-5805-790-12 and 34 series manuals.

APPLICATION:

1. Write the correct answer in the space provided below each question.

2. Use TM 11-5805-790-12 and 34 series manuals as references.

3. If it is not clear what you are required to do, ask your instructor for clarification.

4. When you have completed the practical exercise, ask your instructor to grade it for you.

Whenever pronouns or other references denoting gender appear in this document, they are written to refer to either male or female unless otherwise indicated.

EXERCISE:

1. What voltage should you read on P9 pin E of the VDT?

2. What is the first thing you replace if the VDT has borders but no cursor?

3. What is the card map for VTTYC A?

4. What is meant when KBD is displayed on the screen?

5. What should you do if the suspected faulty card was not the problem?

6. How many power supplies are in the VDT?

7. Is a wrist strap required to remove the circuit cards from the VDT and why?

8. What cable connects VDTB to the cap/controller nest?

9. What input power terminal block is VDTA connected to?

10. Name 4 replaceable component of the VDT?

11. What is the fault isolation program for the LPU?

12. On which processor must you run the fault isolation program?

13. What is a successful pass code for the LPU FI program?

14. What is the card map for LPUA LPC card?

15. Why must you wait before running LP FI after replacing the LPC card?

_____

16. What is the fault for error diagnose code 300010?

_____

17. What cable and plug connects the cap controller and LPU B?

_____

18. What circuit breaker applies power to LPUA?

_____

19. When ONLINE, and processing messages, what happens to LPU A when you load diagnostics using LPU B?

_____

20. If the switch is on line and one printer is not working can diagnostics be run? Why?

_____

PART TWO FAULT ISOLATION

1. SYMPTOM:_____

CORRECTIVE ACTION:_____

REFERENCES USED:

2. SYMPTOM:_____

CORRECTIVE ACTION:_____

REFERENCES USED:_____

3. SYMPTOM:_____

CORRECTIVE ACTION:_____

REFERENCES USED:_____
_____
_____
_____

SECURITY ENHANCEMENTS

INTRODUCTION:

This performance exercise allows you to check and reinforce your understanding of the AN/TYC-39A security enhancements. Your objective is to correctly answer at least 7 out of 10 questions within 30 minutes.

ITEMS YOU WILL NEED FOR THIS EXERCISE:

Check your work position and make sure you have the following items. If any are missing, call your instructor.

TM 11-5805-790-12-2

THE LESSON STRATEGY:

1. You will have 20 minutes in which to complete this performance exercise. Mark your answers directly on the performance exercise.

2. When you have completed this performance exercise, turn it into your instructor.

3. If there are no questions you may begin.

APPLICATION:

1. Using TM 11-5805-790-12-2 answer the 10 questions on the practical exercise provided.

2. When you have completed the exercise have your instructor grade it for you.

3. If it is not clear what you are required to do, ask your instructor for clarification.

Whenever pronouns or other references denoting gender are appear in this document, they are written to refer to either male or female unless otherwise indicated.

EXERCISE:

1. Describe the object reuse function.

_____

_____

2. What are the major responsibilities of the SSO?

3. What is the difference between discretionary access and mandatory access?

4. What off-line job is used by the SSO to print the functional password table?

5. What will result from three successive unsuccessful logon attempts?

6. What are the two types of audits and what are the differences between them?

7. When should the SSO use the off-line audit report function to generate an "on-line" audit report?

8. What command is used to generate an audit report for an individual user?

9. What does the message INVALID CONTROL SDU INFORMATION indicate?

10. What is entered at the next job prompt to activate the off-line audit report?

SUMMARY:

You have just demonstrated your ability to describe the AN/TYC-39A security enhancements.

COMMUNICATIONS INTERFACE GROUP (CIG)

INTRODUCTION:

This performance exercise allows you to check and reinforce your understanding of the AN/TYC-39A CIG. Your objective is to correctly answer at least 14 out of 20 questions within 1 hour.

ITEMS YOU WILL NEED FOR THIS EXERCISE:

Check your work position and make sure that you have the following items. If any are missing, call your instructor.

a. TM 11-5805-790-12-1.
b. TM 11-5805-790-12-6.
c. TM 11-5805-790-12-7.
d. TM 11-5805-790-12-8.

THE LESSON STRATEGY:

1. You will have 1 hour in which to complete this performance exercise. Mark your answers directly on the performance exercise.

2. When you have completed this performance exercise, turn it in to your instructor.

3. If there are no questions you may begin.

APPLICATION:

1. Using TM 11-5805-790-12-1, TM 11-5805-790-12-6, TM 11-5805-790-12-7, and TM 11-5805-790-12-8 answer the 20 questions on the practical exercise provided.

2. When you have completed the exercise, have your instructor grade it for you.

3. If it is not clear what you are required to do, ask your instructor for clarification.

Whenever pronouns or other references denoting gender are appear in this document, they are written to refer to either male or female. unless otherwise indicated.

EXERCISE:

1. Which circuit card generates all clocks required by LTU #40?

   _____

2. How many interface lines exist between the ILIP and the CAPC?

   _____

3. What type of interface packet is used between the ILIP and the LCF circuit cards?

   _____

4. What is indicated by a low 'TBEN' signal sent from an LTU to an ILIP?

   _____

5. How many ILI interfaces can the LCFOP support?

   _____

6. What circuit card is the bus master of the Multibus II interface?

   _____

7. What is the purpose of the MDL circuit card and why is it required?

   _____
   _____
   _____
   _____
   _____

8. What is the purpose of the PSB controller on the LCF?

   _____

9. What are the two different translation algorithms used by the MDL?

   _____

10. What circuit card provides channel coordination and error control on mode I, V, VI lines?

    _____

11. What are the two ways that the ILIP control the MCS and modem control function?

    _____
    _____

12. How many modem cards does each MCSU circuit card control under normal operation?

    _____

13. The interface between the ILIP and the LCF is a parallel interface. **TRUE or FALSE**

14. The DLCP assembles catalogs into ILI and DLCP segments. **TRUE or FALSE**

15. One LCF card contains eight serial communication controller channels. **TRUE or FALSE**

16. The LCF removes the X.25 link layer address and control fields. **TRUE or FALSE**

17. The MDL is required because the LCF and DLCP have different bus and data structures. **TRUE or FALSE**

18. The LCF reports to the MP the complete status as to how much of each type of information is available for transfer. **TRUE or FALSE**

19. MCSU 1 is assigned the highest priority. **TRUE or FALSE**

20. Only one MCSU is allowed to transmit data to the ILI at a time. **TRUE or FALSE**

AN/TYC-39A COMMUNICATIONS INTERFACE GROUP

INTRODUCTION:

This practical exercise (PE) will provide you with the time to practice and reinforce your understanding of the CIG fault isolation procedures. Your objective is to correctly answer at least 7 out 10 questions within 30 minutes and correctly identify 2 out of 3 faults within 30 minutes per fault.

ITEMS YOU WILL NEED FOR THIS LESSON:

Check your work position and make sure you have the following items. If any items are missing, call for an instructor.

a. AN/TYC-39A.
b. TM-11-5805-790-12 series.
c. TM-11-5805-790-34 series.
d. Oscilloscope.
e. Multimeter.
f. Card extractor.

THE LESSON STRATEGY:

This PE directs you in your practice of understanding how to troubleshoot the CIG using the fault isolation charts and diagnostics. The primary aid you will use is the technical manuals.

APPLICATION:

1. You will have 30 minutes in which to correctly answer 7 out of 10 question and 30 minutes per 2 out of 3 faults.

2. When you have completed the performance exercise, turn it into your instructor.

3. Upon completion of the performance exercise, there will be a review and question/answer period.

4. If there are no questions, you may begin.

Whenever pronouns or other references denoting gender appear in this document, they are written to refer to either male or female unless otherwise indicated.

EXERCISE:

1. You find that MDL A is faulty. What rack, row and slot is this card located in?

   _____

2. You get a mode status of MDST ILI 11 da BIST =00002 what card would you replace?

   _____

3. You are running DDLC on DLC B and get an error code of 500010 what card would you replace?

   _____

4. What is the pass code for the DLCP diagnostic?

   _____

5. What card is in A25A608?

   _____

6. How many MCS cards are there and what rack are they located in?

   _____

7. MDST ILI 09 34 ECSI=0187D. What card would you replace?

   _____

8. What ECSI code would you get if the X.25 link was down?

   _____

9. What commands are used to reload the DLC?

   _____

10. When running the loopback test on the MCS card what channel would you use?

    _____

COMMUNICATION INTERFACE GROUP TROUBLESHOOTING

1. SYMPTOM: _____

   CORRECTIVE ACTION: _____

   REFERENCES USED: _____

2. SYMPTOM: _____

   CORRECTIVE ACTION: _____

   REFERENCES USED: _____

3. SYMPTOM: _____

   CORRECTIVE ACTION: _____

   REFERENCES USED: _____

SUMMARY:

This concludes your practice of CIG fault isolation. The CIG is the only means for information to get from the COMSEC to the

processor so it is crucial to the message switch operation that this group is properly maintained.

AN/TYC-39 SPACE DIVISION SUBSCRIBER FUNCTIONAL ANALYSIS

INTRODUCTION:

This practical exercise is divided into two parts. In Part One your learning objective is to install space division subscribers by determining the correct signal path; populating, strapping, and aligning modems; and patching if necessary within 90 minutes. In Part Two you must correctly answer 14 out of 20 questions pertaining to Space Division subscriber functional analysis within 1 hour.

ITEMS YOU WILL NEED FOR THIS LESSON:

Check your work position and make sure that you have the following items. If any are missing, call your instructor.

a. AN/TYC-39.
b. TM 11-5805-790-12-6,7.
c. Oscilloscope.
d. Digital multimeter.
e. Jewelers screwdrivers.

THE LESSON STRATEGY:

Part One of this practical exercise directs you to install space division subscribers. You must determine the correct signal path and populate, strap, and align modems accordingly. Also you must perform patching if necessary. In Part Two you are directed to answer questions pertaining to Space Division subscriber functional analysis. The primary aid you will use is TM 11-5805-790-12-6,7.

APPLICATION:

1. In Part One, you will install space division subscribers. You will be given information about where the signal will enter the signal entry panel (SEP) and other classmarks of the circuit to be installed. Based on this information, you will select the type modem to use, correctly strap the modem, insert it into the correct modem slot, and make the proper alignments on the card. You will also select the correct LTU and LKG to complete the signal path.

2. In exercise 4, you will make changes in a signal path because of a defective modem slot. This will require you to perform patching procedures.

3. Your instructor will initial your PE after you have successfully completed each of the space division subscriber installation exercises.

4. In Part Two, answer the multiple choice questions by drawing a circle around the correct answer.

5. If it is not clear what you are required to do, ask your instructor for clarification.

6. When you have completed the practical exercise, ask your instructor to grade it for you.

Whenever pronouns or other references denoting gender appear in this document, they are written to refer to either male or female unless otherwise indicated.

PART ONE:

Using the AN/TYC-39, TM 11-5805-790-12-6, and Signal Connections chart, install the following Space Division subscribers. Your instructor will initial your PE when you have successfully completed each exercise.

EXERCISE 1.

You have a UGC-74 teletype circuit to install. The signal will enter your SEP on J11, pairs 3 and 4 (QUAD 2); 150 baud; asynchronous/normal; COMSEC = KG-84A. With this information, list and perform the additional steps to complete the circuit installation.

a. Modem type:

b. Modem slot(s) and address to populate the card(s):

c. Strapping options:

Interface option:

Mode option:

Baud rate:

Strap the modem for these options and insert in the correct modem slot(s).

d. LKG location:

e. LTU location:

f. Adjust the transmit signal level to read -4.0 dB.

g. Adjust the transmit carrier alarm to 2.0 vdc.

Instructor's initials:_____

EXERCISE 2.

You have a UGC-74 teletype circuit. The signal will enter your SEP on J13, pairs 5 and 6 (QUAD 3); 1200 baud; asynchronous/normal; equalizer in; master; COMSEC = KG-84A. With this information, list and perform the additional steps to complete the circuit installation.

a. Modem type:

b. Modem slot(s) and address to populate the card(s):

c. Strapping options:

Interface option:

Equalizer option:

Mode option:

Baud rate:

Transmit data:

Transmit clock:

Receive data:

Receive clock:

Strap the modem for these options and insert in the correct modem slot.

d. LKG location:

e. LTU type/slot:

f. Adjust the transmit signal level to -4 dB.

g. Adjust the transmit carrier alarm level to 2.1 vdc.

h. Adjust receive signal level to -4 dB.

Instructor's initials:_____

EXERCISE 3.

You have a computer terminal circuit. The signal will enter your SEP on J12, pairs 1 and 2 (QUAD 1); 16kb/s; master; COMSEC = KG84 A. With this information, list and perform the additional steps to complete the circuit installation.

a. Modem type:

b. Modem slot(s) and address to populate the card(s):

c. Strapping options:

Mode option:

Bit rate option:

Strap the modem for these options and insert in the correct modem slot.

d. LKG location:

e. LTU location:

Instructor's initials:_____

EXERCISE 4.

In exercise #1, you were assigned the following circuit information: Incoming signal on J11, pairs 3 and 4 (QUAD 2). You discover that you have a defective modem slot for this normal through circuit. You have been assigned to use Modem 4 instead. Use the same modem card as before. Perform the correct patching procedure for this circuit to have connectivity.

Instructor's initials:_____

PART TWO:

MULTIPLE CHOICE: CIRCLE THE CORRECT ANSWER.

1. The modem cards are installed in nest rack:

   a. A23, rows A1 and A2.
   b. A23, rows A2 through A5.
   c. A25, rows A1 through A7.
   d. A56, rows A1 and A2.

2. What slot is used for modem 40 with a Type I modem:

   a. A23A440
   b. A23A513
   c. A23A514
   d. A23A515

3. Which of the following cards is the only card type to be installed in a left hand slot?

   a. TYP1M
   b. DILPM
   c. MOD21
   d. MOD22

4. Which of the following is an operational strapping option for a Type I modem?

   a. Interface
   b. Mode
   c. Baud rate
   d. All of the above.

5. On a Type I modem, which of the following strapping options would you choose for 150 baud?

   a. J11 to J12
   b. J12 to J13
   c. J14 to J15
   d. None of the above.

6. On a MOD22 card, how would you strap the card for master?

   a. J2 to J3
   b. J3 to J4
   c. J5 to J6
   d. J6 to J7

7. If you strapped a MOD22 card from J9 to J10, what would you be strapping for?

   a. Normal transmit clock
   b. Slave
   c. 1200 baud
   d. Normal transmit data

8. If you strapped a MOD21 card from J3 to J4, what would you be strapping for?

   a. Equalizer in
   b. Equalizer out
   c. LKG
   d. 150 baud

9. How many strapping options are there on a MOD22 card?

   a. 2
   b. 4
   c. 6
   d. 8

10. If you strapped a DILPM card from J3 to J4, J6 to J7, J9 to J10, what would you be strapping for?

    a. Master
    b. Slave
    c. 16 kb/s
    d. 32 kb/s

11. Which of the following would you choose to strap a DILPM for the Master mode?

    a. J11 to J12
    b. J12 to J13
    c. J13 to J14
    d. J14 to J15

12. The Type I modem must be connected to the subscriber when performing alignment procedures.

    a. True
    b. False

13. Which of the following transmit levels on a Type I modem would fall within the acceptable range?

    a. +4 dB
    b. -4 dB
    c. -11 dB
    d. -12 dB

14. What test points (TP) on a Type I modem are tested for the transmit signal level?

    a. TP4 and TP20
    b. TP4 and TP21
    c. TP5 and TP26
    d. TP5 and TP30

15. Which pot on the Type I modem is used to adjust the transmit signal level?

    a. R2
    b. R3
    c. R4
    d. R5

16. Which of the following is an acceptable transmit signal level on a Type II modem?

    a. +7 dB
    b. -4 dB
    c. +11 dB
    d. -32 dB

17. What test points are tested when measuring the receive signal level on a Type II modem?

    a. TP4 and TP15
    b. TP4 and TP21
    c. TP4 and TP25
    d. TP17 and TP26

18. To adjust the receive carrier alarm level on a Type II modem, which pot is used?

    a. R10
    b. R12
    c. R82
    d. None of the above.

19. What is the correct measurement your multimeter should read for the receive carrier alarm on a Type II modem?

    a. 1.0 vdc
    b. 1.3 vdc
    c. 2.3 vdc
    d. 2.1 vdc

20. What test points are used when measuring the receive carrier alarm level on a Type II modem?

    a. TP4 and TP15
    b. TP11 and TP21
    c. TP11 and TP25
    d. TP12 and TP26

AN/TYC-39 COMMUNICATIONS EQUIPMENT SUPPORT GROUP (CESG) SPACE DIVISION FAULT ISOLATION AND REPAIR

INTRODUCTION:

This practical exercise is divided into two parts. In Part One your learning objective is to identify and analyze fault messages and printouts displayed on the VDU and LPU. Your instructor will induce the faults that will generate these fault messages/printouts. With this information you will utilize the fault isolation flow charts, utilize cable diagrams, perform loopback (LPBK) tests to isolate faults, and repair those faults. After you make the repairs, you will place the channel back in service to verify the fault has been corrected. You will have 1 hour and 45 minutes to perform these tasks. In Part Two you must correctly answer 7 out of 10 questions pertaining to CESG fault isolation and repair within 1 hour.

ITEMS YOU WILL NEED FOR THIS LESSON:

Check your work position and make sure you have the following items. If any are misssing, call your instructor.

a. AN/TYC-39A.
b. Oscilloscope.
c. Digital multimeter.
d. Jewelers screwdriver.
e. TM 11-5805-790-12-1.
f. TM 11-5805-790-12-3.
g. TM 11-5805-790-12-4.
h. TM 11-5805-790-12-6.
i. TM 11-5805-790-12-8.
j. TM 11-5805-790-34-1.
k. TM 11-5805-790-34-3.
l. TM 11-5805-790-34-4.

Whenever pronouns or other references denoting gender appear in this document, they are written to refer to either male or female unless otherwise indicated.

THE LESSON STRATEGY:

Part One directs you to identify and analyze fault messages and printouts. Your instructor will induce the faults that will generate these fault messages. Utilize fault isolation flowcharts, cable diagrams, and perform LPBK tests to isolate and repair faults. After repairing the fault, you will place the channel back in service to verify the fault has been corrected. In Part Two you are directed to answer questions pertaining to CESG fault isolation and repair. The primary aids you will use are TM 11-5805-790-12-3 and TM 11-5805-790-12-8.

APPLICATION:

1. In Part One, your instructor will induce faults that will generate a fault message or a nonmessage fault. Utilize the fault isolation flow charts and refer to the appropriate sections in the TMs to perform the necessary procedures for fault isolation.

2. When you have identified the fault, complete the fault isolation answer sheets as instructed and repair the fault. Show your results to your instructor.

3. This is an example of how to complete your answer sheets. Fill out the entries as best as you can.

   Fault: 1

   Start time: Stop Time: Total Time: minutes

   1. What is the symptom?

      Fault Message: CHA
      01-1S ......RUTCAIA . ALM MD:LRC
      01 01 538201 01.0000

   2. Sectionalize: Single channel alarm.

   3. Localize: MODEM 1

   4. Isolate: Receive carrier pot on Type II modem (R82) will not adjust. Replace modem card - modem will adjust. Alarm is gone.

   5. References: TM 11-5805-790-12-8, para. 10-10
      TM 11-5805-790-12-3, para. 4-8
      TM 11-5805-790-12-6, para. 6-36

4. In Part Two, answer the multiple choice questions by drawing a circle around the correct answer.

5. If it is not clear what you are required to do, ask your instructor for clarification.

6. When you have completed the practical exercise, ask your instructor to grade it for you.

EXERCISE

Fault:

Start Time: Stop Time: Total Time: minutes

1. What is the symptom?

2. Sectionalize:

3. Localize:

4. Isolate:

5. References:

Fault:

Start Time: Stop Time: Total Time: minutes

1. What is the symptom?

2. Sectionalize:

3. Localize:

4. Isolate:

5. References:

Fault:

Start Time: Stop Time: Total Time: minutes

1. What is the symptom?

2. Sectionalize:

3. Localize:

4. Isolate:

5. References:

Fault:

Start Time: Stop Time: Total Time: minutes

1. What is the symptom?

2. Sectionalize:

3. Localize

4. Isolate:

5. References:

PART TWO: MULTIPLE CHOICE: CIRCLE THE CORRECT ANSWER.

1. Which of the following alarms displayed on the VDU screen indicates a fault in the CESG?

   a. CAP
   b CHA
   c. IFS
   d. ORB

2. Which of the following procedures will generate a printout on the LPU?

   a. Pressing ACKT, followed by ACK.
   b. STAT command
   c. &NNN directive
   d. All of the above.

3. If a LPBK test fails, which of the following is a probable cause of a fault?

   a. Defective circuit card
   b. Improper modem strapping
   c. Improper modem alignment
   d. All of the above.

4. What state should the line be in prior to running LPBK tests?

   a. +
   b. -
   c. OL
   d. X

5. When performing LPBK tests, which of the following LPBKs is performed first?

   a. LTU
   b. Modem
   c. Remote
   d. None of the above.

6. When following the sequence of the fault isolation flow charts and you are unable to isolate a fault, a defective cable could be the probable cause of a fault. Which of the following references gives you information about cables in the CESG?

a. TM 11-5805-790-12-8, para. 10-10
b. TM 11-5805-790-34-3, fig. 6-1
c. TM 11-5805-790-34-4, table 7-1
d. TM 11-5805-790-34-4, table 7-2

7. Using TM 11-5805-790-34-3, fig. 6-1, which of the following internal cables connects J11 of the SEP to J1 of the subscriber patch panel?

a. W4
b. W11
c. W16
d. W30

8. Which of the following internal cables connects J17 of the Red LKG patch panel to J36 for LTUs 0-4?

a. W30
b. W38
c. W48
d. W54

9. Using TM 11-5805-790-34-3, which of the following illustrates the schematic for a MOD21 circuit card?

a. Figure 6-1
b. Figure 6-26
c. Figure 6-28
d. Figure 6-33

10. What is the drawing number for the W4 internal cable?

a. SM-D-811628-2
b. SM-D-811628-3
c. SM-D-811628-4
d. SM-D-811630-2

TIME DIVISION INTERFACE GROUP MODIFIED (TDIGM)

INTRODUCTION:

In this practical exercise, your learning objective is to correctly answer 14 out of 20 written questions and populate the TDIGM nest.

ITEMS YOU WILL NEED FOR THIS LESSON:

Check your work position and make sure you have the following items. If any are missing, notify your instructor.

a. TM 11-5805-790-12 series.
b. TM 11-5805-790-34 series.
c. Card Extractor.

THE LESSON STRATEGY:

This practical exercise directs you to answer written questions and populate the TDIGM nest. The primary aid you will use is TM 11-5805-790-12 and 34 series.

APPLICATION:

1. Write the correct answer in the space provided below each question.

2. Use TM 11-5805-790-12 and 34 series manuals as your references.

3. If it is not clear what you are required to do, ask your instructor for clarification.

4. When you have completed the practical exercise, ask your instructor to grade it for you.

5. Populate the TDIGM nest.

Whenever pronouns or other references denoting gender appear in this document, they are written to refer to either male or female unless otherwise indicated.

EXERCISE:

1. What jacks are used on the SEP for circuit switch DTG interface?

   a. J1 through J5
   b. J1 through J14
   c. J10 through J20
   d. RTSA (A41) and RTSB (A-42)

2. How many data channels are associated with the TDIGM ?

   a. 48.
   b. 35.
   c. 50.
   d. 100.

3. How are most circuit cards in the TDIGM strapped?

   a. DIP switches
   b. Using jumper wires
   c. No strapping necessary
   d. Processor-controlled strapping

4. What command is used to switch from RTS-A to RTS-B?

   a. HTDM
   b. Open
   c. YAVL
   d. HEQP

5. What is the frequency of the TGMOW sync pulse?

   a. 1 kHz
   b. 1.2 kHz
   c. 100 Hz
   d. 4.096 MHz

6. What is the range of addresses on the MUX/DEMUX?

   a. 1 to 12
   b. 1 to 64
   c. 0 to 128
   d. 0 to 35

7. How many patch panels are used between the SEP and the LKG?

   a. One

b. Two
c. Four
d. Three

8. What is the input and the output of the TED connected to?

a. TGMOW
b. RTS and ATDLY
c. TGMOW and GPMDM
d. TGMOW and MXDMX

9. What characters does the Control Character Decoder look for?

a. Sync
b. Idle
c. SOC, and Idle
d. SOM, EOM, and Idle

10. What are the TED alarms signals?

a. CAL, CLR, CLK
b. CSF, FOP, SYNC
c. POF, SYNC, CLR
d. CSF, POF, CAL

11. What slots are the LTGA cards for TDGIM B?

_____

12. How are the RTS cards strapped?

_____

13. What must you check before installing any circuit card in the TDIGM nest?

_____

14. What card aligns the trunk signaling buffer with the transmission group module order wire master frame?

_____

15. What command is used to change the strapping of the NSYLK cards in the TDGIM?

_____

16. The MTGS4 card is strapped J29 to J30. What is providing the timing to the trunk?

_____

17. What card controls the switching from space division to time division?

_____

18. The GM transmits and receives what two types of modulated data?

_____

19. What channel is the overhead channel on if the HTDM command has MMTTMMM strappped?

A. 25
B. 16
C. 1
D. 0

20. What card is located in A23A114?

_____

PART TWO:

1. What is the diagnostic test for the TDIGM?

   _____

2. While running TDIGM fault isolation test you get an error of 020061, what card should you repalce?

   _____

3. While running TDIGM fault isolation test you get an error of 750221, what card should you replace?

   _____

4. While running TDIGM fault isolation test you get an error of 020010, what should you do next, if the error remains?

   _____

5. In what patch panel do you install the TDIGM patch plugs to connect paths from the SEP to the RTS's?

   _____

6. What is the code for TDIGM passes unconditionally?

   _____

7. What is the most likely problem if you get a printout of:
   FAIL TDIM RSY2 A ?? LOOP OFR=A5 ITR=08

   _____

8. What is the most likely problem if the TDIGM passes but DTDI gives an error code of 750XXX?

   _____

9. What must be done to the TDIGM when the fault has been corrected?

   _____
   _____
   _____

10. While running DTDI you replace all the cards associated with error code 020055 and the problem is still present, what card would you replace?

    _____
    _____
    _____

AN/TYC-39A TIMING SYSTEM

INTRODUCTION:

This practical exercise (PE) will provide you with the time to practice and reinforce your understanding of the timing system. Your objective is to correctly answer at least 7 out 10 questions within 20 minutes.

ITEMS YOU WILL NEED FOR THIS LESSON:

Check your work position and make sure you have the following items. If any items are missing, call for an instructor.

a. Student Guide
b. TM-11-5805-790-12 series
c. TM-11-5805-790-34 series

THE LESSON STRATEGY:

This PE directs you in your practice of understanding how and where the AN/TYC-39A gets its timing for data control and message processing. The primary aid you will use is the technical manuals.

APPLICATION:

1. You will have 30 minutes in which to correctly answer 7 out of 10 question.

2. When you have completed the performance exercise, turn it into your instructor.

3. Upon completion of the performance exercise, there will be a review and question/answer period.

4. If there are no questions, you may begin.

Whenever pronouns or other references denoting gender appear in this document, they are written to refer to either male or female unless otherwise indicated.

EXERCISE:

1. Where would you find the MTGS4 card for MTG A? (Give nest, row, and slot number.)

   _____

2. What does the MTGSY card consist of (main item) and what is its function?

   _____

3. What frequencies are used by the diphase loop modem?

   _____

4. What frequency is sent to the CAP from the MTG?

   _____

5. What card contains the Clock Monitor Unit (CMU)?

   _____

6. What is the frequency sent to the MTGSY from the MTGS4?

   _____

7. Where does an LTU get its timing from?

   _____

8. Where do the VDT controllers get their timing from?

   _____

9. To what units does the MCBM card supply clocks?

   _____

10. What clock does a Type II modem require?

    _____

SUMMARY:

You have just demonstrated your ability to describe the timing system of the AN/TYC-39A.

AN/TYC-39A DISK DRIVES

INTRODUCTION:

This performance exercise allows you to check and reinforce your understanding of the AN/TYC-39A Disk Drives. Your objective is to correctly answer at least 14 out of 20 questions within 1 hour and isolate 2 out of 3 malfunctions within 30 minutes per fault.

ITEMS YOU WILL NEED FOR THIS EXERCISE:

1. TM 11-5805-790-12-1
2. TM 11-5805-790-12-2
3. TM 11-5805-790-12-8
4. TM 11-5895-1468-34

THE LESSON STRATEGY:

1. You will have 1 hour in which to complete this performance exercise. Mark your answers directly on the performance exercise.

2. When you have completed this performance exercise, turn it into your instructor.

3. If there are no questions you may begin.

4. Isolate 2 out of 3 malfunctions within 30 minutes per fault.

APPLICATION:

1. Using TM 11-5805-790-12-1, TM 11-5805-790-12-2, TM 11-5805-790-12-8, TM 11-5895-1468-34, answer the 20 questions on the practical exercise provided.

   Whenever pronouns or other references denoting gender are appear in this document, they are written to refer to either male or female unless otherwise indicated.

2. When you have completed the exercise have your instructor grade it for you.

3. If it is not clear what you are required to do, ask your instructor for clarification.

4. Isolate 2 out of 3 malfunctions within 30 minutes per fault.

Whenever pronouns or other references denoting gender appear in this document, they are written to refer to either male or female unless otherwise indicated.

EXERCISE:

1. What is the function of the DFDD?

2. How many SCSI boards support the DDU?

3. What is the minimum and maximum input voltages to the DFDD?

4. What is the SCSI and Media Data Transfer Rate of the DFDD?

5. What does the busy light indicate on the DFDD?

6. What is the operational altitude of the DFDD?

7. What is the maximum recording density of the FDD?

8. What TM and paragraph number is used for removal and replace procedures?

9. Which circuit breaker turns on FDD B?

10. Which J connector connects power to the DFDD?

11. How many SDSs are there in the AN/TYC-39A?

12. What is the ERROR rate of the SDU?

13. What is purpose of the SDU Locking Bar?

14. What is the purpose of the SDS?

15. How many read/write heads are there in the SDU?

16. What is the purpose of J10 of the SDU?

17. LFIM is ran from which Processor? Explain you answer.

18. While running LFIM what diagnostic code is displayed for a good SDU test?

19. While running LFIM what dose the code 300072 indicate?

20. What is the purpose of J9 of the SDU?

PART TWO FAULT ISOLATION

1. SYMPTOM: _____

CORRECTIVE ACTION: _____

REFERENCES USED: _____

2. SYMPTOM: _____

CORRECTIVE ACTION: _____

REFERENCES USED: _____

3. SYMPTOM: _____

CORRECTIVE ACTION: _____

REFERENCES USED: _____

AN/TYC-39A L-3050V PROCESSOR AND CAP/CONTROLLER NEST

INTRODUCTION:

In this practical exercise your learning objective is to correctly answer 14 out of 20 written questions pertaining to the AN/TYC-39A L-3050V Processor and CAP/Controller Nest within one hour.

ITEMS YOU WILL NEED FOR THIS EXERCISE:

1. TMs 11-5805-790-12-1, 6, 7, 8
2. TMs 11-5805-790-34-1, 2, 3

THE LESSON STRATEGY:

This practical exercise directs you to answer written questions pertaining to the AN/TYC-39A L-3050V Processor and CAP/Controller Nest. The primary aids you will use are TMs 11-5805-790-12-1, 6, 7, 8 and TMs 11-5805-790-34-1, 2, 3.

APPLICATION:

1. Write the correct answer in the space provided below each question.

2. Use TMs 11-5805-790-12-1, 6, 7, 8 and TMs 11-5805-790-34-1, 2, 3 as your references.

3. If it is not clear what you are required to do, ask your instructor for clarification.

4. When you have completed the practical exercise, ask your instructor to grade it for you.

Whenever pronouns or other references denoting gender appear in this document, they are written to refer to either male or female unless otherwise indicated.

EXERCISE:

1. What is the power consumption of the L-3050V processor?

2. How many megabytes of memory does the L-3050V use in the AN/TYC-39A (delivery configuration)?

3. In what nest and slot would one find the CAPA card?

4. What power processors are used to power the CAP/Controller nest?

5. What channel address is the VDTC-C?

6. What pin on the CAPB cards indicates which card is first and which card is second?

7. What channel number is used by the CAPB card which controls the VDTC-C?

8. What is the function of the CAPB card?

9. How far can a major channel communicate up to?

10. What is RST-1, found in slot 10, used for?

11. What controller corresponds with channel 43?

12. What does the acronym IOSL mean?

13. How many IOSL cards are in the CAP/Controller nest?

14. On what major channel is the SBC XMIT found?

15. How many peripherals can the quad input/output expanders interface with?

_____

16. What is the baud rate that the VDTC provides the VDT?

_____

17. What IOE channel does the LPC-A card use?

_____

18. What cable number and plug number are used in connecting the CAP/Controller nest to line printer B?

_____

19. What IOE channel is used for SDUC-C?

_____

20. What W cable does the IOE 3 on processor #1 use and what nest does it connect to?

_____

AN/TYC-39A DATABASE

INTRODUCTION:

This performance exercise provides you with time to practice AN/TYC-39A database and networking procedures. Your objective is to correctly perform all of the procedures in accordance with the TMs, while observing safety precautions. Your ability to perform these procedures, as specified in the lesson standard, will be evaluated during the course examinations.

ITEMS YOU WILL NEED:

Check your workstation to ensure that you have the following items:

1. Student Guide
2. TM 11-5805-790 series
3. Blank Floppy Disks
4. Program Load Device (PLD-B)

If any are missing, notify your instructor.

STRATEGY:

1. To emulate a real scenario, you have been provided with the raw data to build your database. Your task will be to write a database and build a PLD for a working network. You will have 3.0 hours in which to write a database, and 4.0 hours in which to validate the database and construct a network.

2. Use your Tms throughout this exercise.

3. Observe all safety notices and warnings. Be sure to observe all ESD procedures.

4. Respond to all questions within the exercise. Any omissions will be considered incorrect responses.

5. Ask your instructor for assistance if you have any questions and/or problems during this exercise.

6. Upon completion, have your instructor verify and explain any areas of difficulty.

APPLICATION:

1. Write a database to support the dedicated training network. (Use the raw data provided at the end of this exercise.)

   INSTRUCTOR INITIALS _____

2. Using your database, create security and line classmark DBDs via the VTOF utility.

   INSTRUCTOR INITIALS _____

3. Using your DBDs, create a PLD via the TGEN job.

   INSTRUCTOR INITIALS _____

4. Using your new PLD, initialize the system to an on-line state.

   INSTRUCTOR INITIALS _____

5. Verify all circuit connectivity in-house.

   INSTRUCTOR INITIALS _____

6. Verify all circuit connectivity to equipment.

   INSTRUCTOR INITIALS _____

7. Perform network connectivity checks by sending/receiving traffic over all circuits.

   INSTRUCTOR INITIALS _____

SUMMARY:

You have just demonstrated your ability to construct a database and network for the AN/TYC-39A.

SITE 02 CS MODE VI LL01-05

LL01-05 LTU 01-05 MD 99 LKG 01-05

LOOP SPEED 16K (32K FOR V4) DTE NUMBER = 1

DMC = YES SLV

RI = RUTCCTA LMF = 8-LEVEL TTY ONLY

TELETYPE LINE SIZE = 80 ERROR CONTROL = MULTI-SAMPLING

FRAMING = NO INFORMATION RATE = 2400

MODE 6 STORAGE = 96 ECP AUTHORIZED

SMRI = RUTCCTA PHONE# = 814 157 1072
815 853 4772 (V4)

DATA ADAPTER TYPE = DISPLAY OR STORAGE, PAPER TAPE AND PAGE PRINTER

SITE 02 LL06

LL06 LTU 06 MD 06 LKG 06

LOOP SPEED 1.2K RI = RUTCAKE

LMF = 8-LEVEL TTY ONLY (JANAP)

TELETYPE LINE SIZE = 80 CD = AKE

FULL START OF MESSAGE STOP BITS = 1

SMRI = RUTCAKE

SITE 02 LL07

LL07 LTU 07 MD 07 LKG 07

LOOP SPEED 2.4K RI = RUTCLAP

LMF = 8-LEVEL TTY ONLY (JANAP) TRANSMISSION MODE = CONTINUOUS

TELETYPE LINE SIZE = 80 SMRI = RUTCLAP

SITE 02 LL08

LL08 LTU 08 MD 08 LKG 08

LOOP SPEED 9.6K

DMC = YES

RI = RUTCARP

TELETYPE LINE SIZE = 80

FRAMING = NO

MODE 6 STORAGE = 96

SMRI = RUTCARP

DATA ADAPTER TYPE = DISPLAY OR STORAGE, PAPER TAPE AND PAGE PRINTER

DTE NUMBER = 1

MST

LMF = 8-LEVEL TTY ONLY

ERROR CONTROL = MULTI-SAMPLING

INFORMATION RATE = 2400

ECP AUTHORIZED

SITE 02 LL09

LL09 LTU 09 MD 09 LKG 09

LOOP SPEED 2.4K

DMC = YES

RI = RUTCAGE

TELETYPE LINE SIZE = 80

TRANSMISSION MODE = CONTINOUS

INFORMATION RATE = 2.4K

SERVICE MESSAGE RI = RUTCAGE

DTE NUMBER = 1

MASTER

LMF = 8-LEVEL TTY ONLY

ERROR CONTROL = MULTI-SAMPLING

NO FRAMING

ECP AUTHORIZED

SITE 02 LL10

LL10 LTU 10 MD 10 LKG 10

LOOP SPEED 9.6K

RELAY TYPE = 5
FIRST LINK = LL10

DMC

FRAMING = NO

SLAVE

INFORMATION RATE = 2.4K

MODE = 6

ERROR CONTROL = MULTI-SAMPLING

SITE 02 LL11

LOOP SPEED 2.4K

TRANSMISSION MODE = CONTINUOUS

FIRST LINK = LOGICAL LINE 10

SITE 08 CS MODE VI LL01-05

LL01-05 LTU 01-05 MD 99 LKG 01-05

LOOP SPEED 16K (32K FOR V4)

DTE NUMBER = 1

DMC = YES

SLV

RI = RUSFCTA

LMF = 8-LEVEL TTY ONLY

TELETYPE LINE SIZE = 80

ERROR CONTROL = MULTI-SAMPLING

FRAMING = NO

INFORMATION RATE = 2400

MODE 6 STORAGE = 96

ECP AUTHORIZED

SMRI = RUSFCTA

PHONE# = 814 157 1072
815 853 4772 (V4)

DATA ADAPTER TYPE = DISPLAY OR STORAGE, PAPER TAPE AND PAGE PRINTER

SITE 08 LL06

LL06 LTU 06 MD 06 LKG 06

LOOP SPEED 1.2K RI = RUSFUNK

LMF = 8-LEVEL TTY ONLY (JANAP)

TELETYPE LINE SIZE = 80 CD = AKE

FULL START OF MESSAGE STOP BITS = 1

SMRI = RUSFUNK

SITE 08 LL07

LL07 LTU 07 MD 07 LKG 07

LOOP SPEED 2.4K RI = RUSFLIP

LMF = 8-LEVEL TTY ONLY (JANAP) TRANSMISSION MODE = CONTINUOUS

TELETYPE LINE SIZE = 80 SMRI = RUSFLIP

SITE 08 LL08

LL08 LTU 08 MD 08 LKG 08

LOOP SPEED 9.6K DTE NUMBER = 1

DMC = YES MST

RI = RUSFLOP LMF = 8-LEVEL TTY ONLY

TELETYPE LINE SIZE = 80 ERROR CONTROL = MULTI-SAMPLING

FRAMING = NO INFORMATION RATE = 2400

MODE 6 STORAGE = 96 ECP AUTHORIZED

SMRI = RUSFLOP

DATA ADAPTER TYPE = DISPLAY OR STORAGE, PAPER TAPE AND PAGE PRINTER

SITE 08 LL09

LL09 LTU 09	MD 09 LKG 09
LOOP SPEED 2.4K	DTE NUMBER = 1
DMC = YES	MASTER
RI = RUSFAST	LMF = 8-LEVEL TTY ONLY
TELETYPE LINE SIZE = 80	ERROR CONTROL = MULTI-SAMPLING
TRANSMISSION MODE = CONTINOUS	NO FRAMING
INFORMATION RATE = 2.4K	ECP AUTHORIZED
SERVICE MESSAGE RI = RUSFAST	

SITE 08 LL10

LL10 LTU 10	MD 10 LKG 10
LOOP SPEED 9.6K	RELAY TYPE = 5 FIRST LINK = LL10
DMC	FRAMING = NO
SLAVE	INFORMATION RATE = 2.4K
MODE = 6	ERROR CONTROL = MULTI-SAMPLING

SITE 08 LL11

LOOP SPEED 2.4K	TRANSMISSION MODE = CONTINUOUS
FIRST LINK = LOGICAL LINE 10	

AN/UGC-74/DIPHASE MODEM/MODE II

KG-84A SWITCH SETTINGS

CLOCK:	POS 2	SLAVE
DATA MODE:	POS 5	WIRELINE CONDITIONED
STEP PULSE INTERVAL:	POS 1,+0	OFF
TTY MODE:	POS 1	AUTO RESYNC
DATA RATE RX/TX:	A 8	1200
INTERFACE:	POS 2	CA ON
DATA LENGTH:	POS 10	ASCII, 1 STOP BIT
SYNC MODE:	POS 2	RED; A/S
COMM MODE:	POS 1	FULL DUPLEX
XVAR	POS 1	

AN/TYC-39

KG-82	POS 2	DEDICATED
DIPHASE MODEM	J11-J12	MASTER
	J2-3,5-6,8-9	1200

AN/UGC-74 SETUP

MODE:	II
CODE SPEED:	ASCII
	1200 BAUD
PARITY:	ASCII ODD PARITY
STATE:	ICT
REC/XMIT:	LO DATA
SIGNAL:	NRZ

AN/UGC-144/KG-84A/DIPHASE MODEM/MODE I/NON-DACB INTERFACE

KG-84A SWITCH SETTINGS

CLOCK:	POS 2	SLAVE
DATA MODE:	POS 5	WIRELINE CONDITIONED
STEP PULSE INTERVAL:	POS 1,+0	OFF
TTY MODE:	POS 1	AUTO RESYNC
DATA RATE RX/TX:	B 1	2400
INTERFACE:	POS 2	CA ON
DATA LENGTH:	POS SYNC	SYNCHRONOUS
SYNC MODE:	POS 2	RED; A/S
COMM MODE:	POS 1	FULL DUPLEX
XVAR	POS 1	

AN/TYC-39

KG-82	POS 2	DEDICATED
DIPHASE MODEM	J11-J12	MASTER
	J2-3,5-6,9-10	2400

AN/UGC-144 SSI SETUP

MASTER/SLAVE:	SLAVE
DACB PROTOCOL:	OFF
CHANNEL CONTROL:	MODE I CONT
MESSAGE CODE/PARITY:	ASCII ODD PARITY
LOOP RATE:	2400
DATA RATE:	2400
ERROR CONTROL:	MULTISAMPLING
SSI INTERFACE:	DLED
AUTO RESYNC:	ON
CLOCK SOURCE:	EXTERNAL
EXT CLOCK POLARITY:	POSITIVE
TRANSMIT SIG SENSE:	MARK POSITIVE
RECEIVE SIG SENSE:	MARK POSITIVE
SERIAL DATA CODE:	NRZ
NO. OF STOP BITS:	N/A
DATA MODE CONTROL:	OFF
MODE VI STORAGE BLKS:	NONE
MODE I ANSWER TIMER:	2 SECS

AN/UGC-144/KG-84A/DIPHASE MODEM/MODE VI/DACB INTERFACE

KG-84A SWITCH SETTINGS

CLOCK:	POS 2	SLAVE
DATA MODE:	POS 5	WIRELINE CONDITIONED
STEP PULSE INTERVAL:	POS 1,+0	OFF
TTY MODE:	POS 1	AUTO RESYNC
DATA RATE RX/TX:	B 4	9600
INTERFACE:	POS 2	CA ON
DATA LENGTH:	POS SYNC	SYNCHRONOUS
SYNC MODE:	POS 2	RED; A/S
COMM MODE:	POS 1	FULL DUPLEX
XVAR	POS 1	

AN/TYC-39

KG-82	POS 2	DEDICATED
DIPHASE MODEM	J11-J12	MASTER
	J2-3,6-7,9-10	9600

AN/UGC-144 SSI SETUP

MASTER/SLAVE:	MASTER
DACB PROTOCOL:	ON
CHANNEL CONTROL:	MODE VI
MESSAGE CODE/PARITY:	ASCII ODD PARITY
LOOP RATE:	9600
DATA RATE:	2400
ERROR CONTROL:	MULTISAMPLING
SSI INTERFACE:	DLED
AUTO RESYNC:	OFF
CLOCK SOURCE:	INTERNAL
EXT CLOCK POLARITY:	POSITIVE
TRANSMIT SIG SENSE:	MARK POSITIVE
RECEIVE SIG SENSE:	MARK POSITIVE
SERIAL DATA CODE:	NRZ
NO. OF STOP BITS:	1
DATA MODE CONTROL:	ON
MODE VI STORAGE BLKS:	96
MODE I ANSWER TIMER:	DEFAULT

AN/UGC-144/KG-84A/DIPHASE MODEM/MODE I/DACB INTERFACE

KG-84A SWITCH SETTINGS

CLOCK:	POS 2	SLAVE
DATA MODE:	POS 5	WIRELINE CONDITIONED
STEP PULSE INTERVAL:	POS 1,+0	OFF
TTY MODE:	POS 1	AUTO RESYNC
DATA RATE RX/TX:	B 1	2400
INTERFACE:	POS 2	CA ON
DATA LENGTH:	POS SYNC	SYNCHRONOUS
SYNC MODE:	POS 2	RED; A/S
COMM MODE:	POS 1	FULL DUPLEX
XVAR	POS 1	

AN/TYC-39

KG-82	POS 2	DEDICATED
DIPHASE MODEM	J11-J12	MASTER
	J2-3,5-6,9-10	2400

AN/UGC-144 SSI SETUP

MASTER/SLAVE:	SLAVE
DACB PROTOCOL:	ON
CHANNEL CONTROL:	MODE I CONT
MESSAGE CODE/PARITY:	ASCII ODD PARITY
LOOP RATE:	2400
DATA RATE:	2400
ERROR CONTROL:	MULTISAMPLING
SSI INTERFACE:	DLED
AUTO RESYNC:	OFF
CLOCK SOURCE:	INTERNAL
EXT CLOCK POLARITY:	POSITIVE
TRANSMIT SIG SENSE:	MARK POSITIVE
RECEIVE SIG SENSE:	MARK POSITIVE
SERIAL DATA CODE:	NRZ
NO. OF STOP BITS:	N/A
DATA MODE CONTROL:	ON
MODE VI STORAGE BLKS:	NONE
MODE I ANSWER TIMER:	2 SECS

MESSAGE SWITCH TO MESSAGE SWITCH CONTIGENCY LINE

AN/TYC-39A - 02

LINE 10		
KG-82	POS 2	DEDICATED
DIPHASE	J12-13	SLAVE
	J2-3,6-7,9-10	9600
LINE 11		
KG-82	POS 2	DEDICATED
DIPHASE	J12-13	SLAVE
	J2-3,6-7,9-10	9600

AN/TYC-39A - 08

LINE 10		
KG-82	POS 2	DEDICATED
DIPHASE	J11-12	MASTER
	J2-3,6-7,9-10	9600
LINE 11		
KG-82	POS 2	DEDICATED
DIPHASE	J11-12	MASTER
	J2-3,6-7,9-10	9600

AN/UGC-144/KY68/MODE VI/DACB INTERFACE
MS TO CS (39D TTC)

AN/UGC-144 SSI SETUP

MASTER/SLAVE:	MASTER
DACB PROTOCOL:	ON
CHANNEL CONTROL:	MODE VI
MESSAGE CODE/PARITY:	ASCII ODD PARITY
LOOP RATE:	16000
DATA RATE:	2400
ERROR CONTROL:	MULTISAMPLING
SSI INTERFACE:	KY68 OR TA1042
AUTO RESYNC:	OFF
CLOCK SOURCE:	INTERNAL
EXT CLOCK POLARITY:	POSITIVE
TRANSMIT SIG SENSE:	MARK POSITIVE
RECEIVE SIG SENSE:	MARK POSITIVE
SERIAL DATA CODE:	NRZ
NO. OF STOP BITS:	1
DATA MODE CONTROL:	ON
MODE VI STORAGE BLKS:	96
MODE I ANSWER TIMER:	DEFAULT

AN/UGC-144/KY68/MODE VI/DACB INTERFACE
MS TO CS (V4 TTC)

AN/UGC-144 SSI SETUP

MASTER/SLAVE:	MASTER
DACB PROTOCOL:	ON
CHANNEL CONTROL:	MODE VI
MESSAGE CODE/PARITY:	ASCII ODD PARITY
LOOP RATE:	32000
DATA RATE:	2400
ERROR CONTROL:	MULTISAMPLING
SSI INTERFACE:	KY68 OR TA1042
AUTO RESYNC:	OFF
CLOCK SOURCE:	INTERNAL
EXT CLOCK POLARITY:	POSITIVE
TRANSMIT SIG SENSE:	MARK POSITIVE
RECEIVE SIG SENSE:	MARK POSITIVE
SERIAL DATA CODE:	NRZ
NO. OF STOP BITS:	1
DATA MODE CONTROL:	ON
MODE VI STORAGE BLKS:	96
MODE I ANSWER TIMER:	DEFAULT

DEDICATED TRAINING NETWORK

SITE 01 DATABASE

```
H■T CRUY SWITCH01
HMCB 01 RUSF UUSF YUSF 2 RUTC UUTC YETT
LADD 10 SD T10 MD10 LKG10 SP12 LK10 G0 CRUY MST DMC
LADD 11 SF T11 MD11 LKG11 SP10 LK10 CRUY CN
LADD 20 M2 US T20 MD20 LKG20 SP09 G0 CR J8 CN FS SM2 RSEC=T
LADD 21 M1 US T21 MD21 LKG21 SP10 G0 CR J8 CN RSEC=T
LADD 22 DA US T22 MD22 LKG22 SP10 G0 CR MST
LADD 23 DA US T23 MD23 LKG23 SP12 G0 CR MST DMC
LADD 30 M1 US T30 MD30 LKG30 SP10 G0 CRY J8 CN AT
RADD YUSFSA EQ YUSFSV
RADD RUTC SF RE5 DD L10 *
RAD* RUTC DD M6 EC0 FR=N IR10 DMC=Y SM=YETTSVA
RADD RUSFUNK LT DC L20 LMFAO C80
RADD RUSFLIP LT DC L21 LMFAO C80
RADD RUSFLOP LT DD L22 D1 SECT LMFAO C80 *
RAD* RUSFLOP M1 CN EC0 FR=N IR10 DMC=Y ECP SM=RUSFLOP
RADD RUSFAST LT DD L23 D1 SECT LMFAO C80 *
RAD* RUSFAST M6 EC0 FR=N IR10 DMC=Y STR96 ECP SM=RUSFAST
RADD YERA LT OAS=Y RE1 DC L30
RADD RUED LT OAS=Y RE5 DC L30 SECT
LRIS 20 SM=RUSFUNK CD=UNK
LRIS 21 SM=RUSFLIP
LRIS 30 SM=YERASVA
SEC RI RUSFCS SECT
SEC RI UUSFCS SECT
SEC SRA TSS ALL
CADD RUCRALL RUSFAST *UNK *LIP *LOP
CDRT YERA YERA YERA
CSST RUSFAST
CDSP RUSFAST
CRRP RUSFAST
```

DEDICATED TRAINING NETWORK

SITE 02 DATABASE

```
H■T CRUY SWITCH02
HMCB 02 RUTC UUTC YETT 1 RUSF UUSF YUSF
LADD 10 SD T10 MD10 LKG10 SP12 LK10 G0 CRUY SLV DMC
LADD 11 SF T11 MD11 LKG11 SP10 LK10 CRUY CN
LADD 20 M2 US T20 MD20 LKG20 SP09 G0 CR J8 CN FS SM2 RSEC=T
LADD 21 M1 US T21 MD21 LKG21 SP10 G0 CR J8 CN RSEC=T
LADD 22 DA US T22 MD22 LKG22 SP10 G0 CR MST
LADD 23 DA US T23 MD23 LKG23 SP12 G0 CR MST DMC
LADD 30 M1 US T30 MD30 LKG30 SP10 G0 CRY J8 CN AT
RADD YETTSA EQ YETTSV
RADD RUSF SF RE5 DD L10 *
RAD* RUSF DD M6 EC0 FR=N IR10 DMC=Y SM=YETTSVA
RADD RUTCOLD LT DC L20 LMFAO C80
RADD RUTCAKE LT DC L21 LMFAO C80
RADD RUTCAGE LT DD L22 D1 SECT LMFAO C80 *
RAD* RUTCAGE M1 CN EC0 FR=N IR10 DMC=Y ECP SM=RUTCAGE
RADD RUTCARP LT DD L23 D1 SECT LMFAO C80 *
RAD* RUTCARP M6 EC0 FR=N IR10 DMC=Y STR96 ECP SM=RUTCARP
RADD YERA LT OAS=Y RE1 DC L30
RADD RUED LT OAS=Y RE5 DC L30 SECT
LRIS 20 SM=RUTCOLD CD=OLD
LRIS 21 SM=RUTCAKE
LRIS 30 SM=YERASVA
SEC RI RUTCCS SECT
SEC RI UUTCCS SECT
SEC SRA TSS ALL
CADD RUCRALL RUTCOLD *AKE *AGE *ARP
CDRT YERA YERA YERA
CSST RUTCARP
CDSP RUTCARP
CRRP RUTCARP
```

STRAPPING OPTIONS

AN/TYC-39A DATABASE STRAPPING OPTIONS (FOR USE WITH AN/TTC-39D)

1. The AN/TYC-39A has 48 modem cards.

2. Each modem has 5 strapping options.

   a. 35 modem cards can be used for TDIM/MODEM NEST.
   b. 13 modem cards are used for space divison **ONLY**.
   c. All strapping are solfware and hardware.

3. The AN/TYC-39A has 7 NSYLK cards.

   a. Each NSYLK card controls 5 LTU channels.
   b. All switch setting are software strapped.
   c. One NSYLK must be strapped for timing in the database when connected to a circuit switch.

4. The following is a sample Database with the commands used to set the strappings.

SITE 02 DATABASE (FOR USE WITH 39D TTC)

```
H T CRUY SWITCH02 TDLS16
HCSP I914 N802 P8215000
HEQP VDT=ABC LPU=AB TDIM=Y TSB=Y
HMCB 2 RUTC UUTC YETT 8 RUSF YUSF
HTDM CH=9 CLD=1 CLM=4 RED REP=N DIPHASE RTS=A NSYL=TMMMMMM
LADD 01 CS TP0 T00 MD99 LKG00 G0 TR01 LL05
LADD 02 CS T01 MD99 LKG01 TR02
LADD 03 CS T02 MD99 LKG02 TR03
LADD 04 CS T03 MD99 LKG03 TR04
LADD 05 CS T04 MD99 LKG04 TR05
LADD 06 M2 US T06 MD06 LKG06 SP09 G0 CR J8 CN FS SM1 RSEC=T
LADD 07 M1 US T07 MD07 LKG07 SP10 G0 CR J8 CN RSEC=T
LADD 08 DA US T08 MD08 LKG08 SP12 G0 CR SLV DMC
LADD 09 DA US T09 MD09 LKG09 SP10 G0 CR MST DMC
LADD 10 SD T10 MD10 LKG10 SP12 LK10 G0 CRUY SLV DMC
LADD 11 SP T11 MD11 LKG11 SP10 LK10 CRUY CN
RADD RUTCCTA LT SD L01 N814 P1571072 D1 LMFAO C80 *
RAD* RUTTCTA M6 EC0 FR=N IR10 DMC=Y DT=STP STR96 ECP SM=RUTCCTA
RADD RUTCAKE LT DC L06 LMFAO C80
RADD RUTCLAP LT DC L07 LMFAO C80
RADD RUTCARP LT DD L08 D1 SECT LMFAO C80 *
RAD* RUTCARP M6 EC0 FR=N IR10 DMC=Y STR96 ECP SM=RUTCARP
RADD RUTCAGE LT DD L09 D1 SECT LMFAO C80 *
RAD* RUTCAGE M1 CN EC0 FR=N IR10 DMC=Y ECP SM=RUTCAGE
RADD RUSF SF RE5 DD SD L10 N801 P8211000 *
RAD* RUSF DD M6 EC0 FR=N IR10 DMC=Y SD M6 EC0 FR=N IR10 DMC=Y SM=YUSFSVA
LRIS 06 SM=RUTCAKE CD=AKE
LRIS 07 SM=RUTCLAP
SEC RI RUTCCS SECT
SEC RI UUTCCS SECT
SEC SRA TSS ALL
CDRT YUSF YUSF YUSF
```

SITE 08 DATABASE (FOR USE WITH AN/TTC-39D)

```
H T CRUY SWITCH08 TDLS16
HCSP I914 N801 P8211000
HEQP VDT=ABC LPU=AB TDIM=Y TSB=Y
HMCB 8 RUSF UUSF YUSF 2 RUTC UUTC YETT
HTDM CH=9 CLD=1 CLM=4 RED REP=N DIPHASE RTS=A NSYL=TMMMMMM
LADD 01 CS TP0 T00 MD99 LKG00 G0 TR01 LL05
LADD 02 CS T01 MD99 LKG01 TR02
LADD 03 CS T02 MD99 LKG02 TR03
LADD 04 CS T03 MD99 LKG03 TR04
LADD 05 CS T04 MD99 LKG04 TR05
LADD 06 M2 US T06 MD06 LKG06 SP09 G0 CR J8 CN FS SM1 RSEC=T
LADD 07 M1 US T07 MD07 LKG07 SP10 G0 CR J8 CN RSEC=T
LADD 08 DA US T08 MD08 LKG08 SP12 G0 CR SLV DMC
LADD 09 DA US T09 MD09 LKG09 SP10 G0 CR MST DMC
LADD 10 SD T10 MD10 LKG10 SP12 LK10 G0 CRUY SLV DMC
LADD 11 SF T11 MD11 LKG11 SP10 LK10 CRUY CN
RADD RUSFCTA LT SD L01 N814 P1505303 D1 LMFAO C80 *
RAD* RUSFCTA M6 EC0 FR=N IR10 DMC=Y DT=STP STR96 ECP SM=RUSFCTA
RADD RUSFUNK LT DC L06 LMFAO C80
RADD RUSFLIP LT DC L07 LMFAO C80
RADD RUSFLOP LT DD L08 D1 SECT LMFAO C80 *
RAD* RUSFLOP M6 EC0 FR=N IR10 DMC=Y STR96 ECP SM=RUSFLOP
RADD RUSFAST LT DD L09 D1 SECT LMPAO C80 *
RAD* RUSFAST M1 CN EC0 FR=N IR10 DMC=Y ECP SM=RUSFAST
RADD RUTC SF RE5 DD SD L10 N802 P8215000 *
RAD* RUTC DD M6 EC0 FR=N IR10 DMC=Y SD M6 EC0 FR=N IR10 DMC=Y
SM=YETTSVA
LRIS 06 SM=RUSFUNK CD=UNK
LRIS 07 SM=RUSFLIP
SEC RI RUSFCS SECT
SEC RI UUSFCS SECT
SEC SRA TSS ALL
CDRT YETT YETT YETT
```

SITE 02 DATABASE (FOR USE WITH AN/TTC-39A(V4)

```
H T CRUY SWITCH02 TDLS32
HCSP I914 N802 P8215000
HEQP VDT=ABC LPU=AB TDIM=Y TSB=Y
HMCB 2 RUTC UUTC YETT 8 RUSF YUSF
HTDM CH=9 CLD=1 CLM=4 RED REP=N DIPHASE RTS=A NSYL=TMMMMMM
LADD 01 CS TP0 T00 MD99 LKG00 G0 TR01 LL05
LADD 02 CS T01 MD99 LKG01 TR02
LADD 03 CS T02 MD99 LKG02 TR03
LADD 04 CS T03 MD99 LKG03 TR04
LADD 05 CS T04 MD99 LKG04 TR05
LADD 06 M2 US T06 MD06 LKG06 SP09 G0 CR J8 CN FS SM1 RSEC=T
LADD 07 M1 US T07 MD07 LKG07 SP10 G0 CR J8 CN RSEC=T
LADD 08 DA US T08 MD08 LKG08 SP12 G0 CR SLV DMC
LADD 09 DA US T09 MD09 LKG09 SP10 G0 CR MST DMC
LADD 10 SD T10 MD10 LKG10 SP12 LK10 G0 CRUY SLV DMC
LADD 11 SP T11 MD11 LKG11 SP10 LK10 CRUY CN
RADD RUTCCTA LT SD L01 N814 P1571072 D1 LMFAO C80 *
RAD* RUTTCTA M6 EC0 FR=N IR10 DMC=Y DT=STP STR96 ECP SM=RUTCCTA
RADD RUTCAKE LT DC L06 LMFAO C80
RADD RUTCLAP LT DC L07 LMFAO C80
RADD RUTCARP LT DD L08 D1 SECT LMFAO C80 *
RAD* RUTCARP M6 EC0 FR=N IR10 DMC=Y STR96 ECP SM=RUTCARP
RADD RUTCAGE LT DD L09 D1 SECT LMFAO C80 *
RAD* RUTCAGE M1 CN EC0 FR=N IR10 DMC=Y ECP SM=RUTCAGE
RADD RUSF SF RE5 DD SD L10 N801 P8211000 *
RAD* RUSF DD M6 EC0 FR=N IR10 DMC=Y SD M6 EC0 FR=N IR10 DMC=Y
SM=YUSFSVA
LRIS 06 SM=RUTCAKE CD=AKE
LRIS 07 SM=RUTCLAP
SEC RI RUTCCS SECT
SEC RI UUTCCS SECT
SEC SRA TSS ALL
CDRT YUSF YUSF YUSF
```

SITE 08 DATABASE (FOR USE WITH AN/TTC-39A(V4)

```
H T CRUY SWITCH08 TDLS32
HCSP I914 N801 P8211000
HEQP VDT=ABC LPU=AB TDIM=Y TSB=Y
HMCB 8 RUSF UUSF YUSF 2 RUTC UUTC YETT
HTDM CH=9 CLD=1 CLM=4 RED REP=N DIPHASE RTS=A NSYL=TMMMMMM
LADD 01 CS TP0 T00 MD99 LKG00 G0 TR01 LL05
LADD 02 CS T01 MD99 LKG01 TR02
LADD 03 CS T02 MD99 LKG02 TR03
LADD 04 CS T03 MD99 LKG03 TR04
LADD 05 CS T04 MD99 LKG04 TR05
LADD 06 M2 US T06 MD06 LKG06 SP09 G0 CR J8 CN FS SM1 RSEC=T
LADD 07 M1 US T07 MD07 LKG07 SP10 G0 CR J8 CN RSEC=T
LADD 08 DA US T08 MD08 LKG08 SP12 G0 CR SLV DMC
LADD 09 DA US T09 MD09 LKG09 SP10 G0 CR MST DMC
LADD 10 SD T10 MD10 LKG10 SP12 LK10 G0 CRUY SLV DMC
LADD 11 SP T11 MD11 LKG11 SP10 LK10 CRUY CN
RADD RUSFCTA LT SD L01 N814 P1505303 D1 LMFAO C80 *
RAD* RUSFCTA M6 EC0 FR=N IR10 DMC=Y DT=STP STR96 ECP SM=RUSFCTA
RADD RUSFUNK LT DC L06 LMFAO C80
RADD RUSFLIP LT DC L07 LMFAO C80
RADD RUSFLOP LT DD L08 D1 SECT LMFAO C80*
RAD* RUSFLOP M6 EC0 FR=N IR10 DMC=Y STR96 ECP SM=RUSFLOP
RADD RUSFAST LT DD L09 D1 SECT LMPAO C80 *
RAD* RUSFAST M1 CN EC0 FR=N IR10 DMC=Y ECP SM=RUSFAST
RADD RUTC SF RE5 DD SD L10 N802 P8215000 *
RAD* RUTC DD M6 EC0 FR=N IR10 DMC=Y SD M6 EC0 FR=N IR10 DMC=Y
SM=YETTSVA
LRIS 06 SM=RUSFUNK CD=UNK
LRIS 07 SM=RUSFLIP
SEC RI RUTCCS SECT
SEC RI UUTCCS SECT
SEC SRA TSS ALL
CDRT YETT YETT YETT
```

SITE 02 CS MODE VI LL01-05

LL01-05 **LTU 01-05** **MD 99** **LKG 01-05**

LOOP SPEED 16K (32K FOR V4)

DMC = YES

RI = RUTCCTA

ONLY

TELETYPE LINE SIZE = 80

MULTI-SAMPLING

FRAMING = NO

2400

MODE 6 STORAGE = 96

SMRI = RUTCCTA

DTE NUMBER = 1

SLV

LMF = 8-LEVEL TTY

ERROR CONTROL =

INFORMATION RATE =

ECP AUTHORIZED

PHONE # = 814 1571072

815

8534772 (V4)

DATA ADAPTER TYPE = DISPLAY OR STORAGE, PAPER TAPE, AND PAGE

PRINTER

SITE 02 LL06

LL06 **LTU 06** **MD 06** **LKG 06**

LOOP SPEED 1,2K

RI = RUTCAKE

LMF = 8-LEVEL TTY ONLY (JANAP)

TELETYPE LINE SIZE = 80

CD = AKE

FULL START OF MESSAGE

STOP BITE = 1

SMRI = RUTCAKE

SITE 02 LL07

LL07 **LTU 07** **MD 07** **LKG 07**

LOOP SPEED 2.4K

RI = RUTCLAP

LMF = 8-LEVEL TTY ONLY (JANAP)

TRANSMISSION MODE = CONTINUOUS

TELETYPE LINE SIZE = 8

SMRI = RUTCLAP

SITE 02 LL08

LL08 **LTU 08** **MD 08** **LKG 08**

LOOP SPEED 9.6K

DTE NUMBER = 1

LMF = 8-LEVEL TTY ONLY

MST

INFORMATION RATE = 2400

DMC = YES

TELETYPE LINE SIZE = 80

RI = RUTCARP

ERROR CONTROL = MULTI-SAMPLING

ECP AUTHORIZED

MODE 6 STORAGE = 96

SMRI = RUTCARP

DATA ADAPTER TYPE = DISPLAY OR STORAGE, PAPER TAPE, AND PAGE PRINTER

SITE 02 LL09

LL09	LTU 09	MD 09	LKG 09
LOOP SPEED 2.4K			DTE NUMBER = 1
DME = YES			MASTER
RI = RUTCAGE			
ERROR CONTROL = MULTI-SAMPLING			
TRANSMISSION MODE = CONTINOUS			NO FRAMING
INFORMATION RATE = 2.4K			ECP AUTHORIZED
SERVICE MESSAGE RI = RUTCAGE			

SITE 02 LL10

LL10	LTU 10	MD 10	LKG 10
LOOP SPEED 9.6K			RELAY TYPE = 50
FIRST LINK=LL10			MODE = 6
DMC			FRAMING = NO
ERROR CONTROL = MULTI-SAMPLING			SLAVE
INFORMATION RATE = 2.4K			

SITE 02 LL11

LOOP SPEED 2.4K

TRANSMISSION MODE = CONTINUOUS

FRIST LINK = LOGICAL LINE 10

SITE 08 CS MODE VI LL01-05

LL01-05 **LTU 01-05** **MD 99** **LKG 01-05**

LOOP SPEED 16K (32K FOR V4) DTE NUMBER = 1

DMC = YES SLV

LMF = 8-LEVEL TTY ONLY RI = RUSFCTA

TELETYPE LINE SIZE = 80 ECP AUTHORIZED

ERROR CONTROL = MULTI-SAMPLING FRAMING = NO

INFORMATION RATE = 2400 SMRI = RUSFCTA

MODE 6 STORAGE = 96

PHONE # = 814 1571072 & 815 8534772 (V4)

DATA ADAPTER TYPE = DISPLAY OR STORAGE, PAPER TAPE, AND PAGE PRINTER

SITE 08 LL06

LL06 **LTU 06** **MD 06** **LKG 06**

LOOP SPEED 1,2K RI = RUSFUNK

LMF = 8-LEVEL TTY ONLY (JANAP)

TELETYPE LINE SIZE = 80 CD = AKE

FULL START OF MESSAGE STOP BITE = 1

SMRI = RUSFUNK

SITE 08 LL07

LL07	**LTU 07**	**MD 07**	**LKG 07**
LOOP SPEED 2.4K			RI = RUSFLIP
LMF = 8-LEVEL TTY ONLY (JANAP)			
TRANSMISSION MODE = CONTINUOUS			
TELETYPE LINE SIZE = 80			SMRI = RUSFLIP

SITE 08 LL08

LL08	**LTU 08**	**MD 08**	**LKG 08**
LOOP SPEED 9.6K			DTE NUMBER = 1
LMF = 8-LEVEL TTY ONLY			RI = RUSFLOP
TELETYPE LINE SIZE = 80			FRAMING = NO
ERROR CONTROL = MULTI-SAMPLING			DMC = YES
INFORMATION RATE = 2400			MST
MODE 6 STORAGE = 96			SMRI = RUSFLOP
ECP AUTHORIZED			
DATA ADAPTER TYPE = DISPLAY OR STORAGE, PAPER TAPE, AND PAGE PRINTER			

SITE 08 LL09

LL09	LTU 09	MD 09	LKG 09
LOOP SPEED 2.4K			DTE NUMBER = 1
DME = YES			MASTER
SERVICE MESSAGE RI = RUSFAST			
ERROR CONTROL = MULTI-SAMPLING			RI = RUSFAST
TRANSMISSION MODE = CONTINOUS			NO FRAMING
INFORMATION RATE = 2.4K			ECP AUTHORIZED

SITE 08 LL10

LL10	LTU 10	MD 10	LKG 10
LOOP SPEED 9.6K			RELAY TYPE = 50
FIRST LINK=LL10			MASTER
DMC			FRAMING = NO
INFORMATION RATE = 2.4K			MODE = 6
ERROR CONTROL = MULTI-SAMPLING			

SITE 08 LL11

LOOP SPEED 2.4K

TRANSMISSION MODE = CONTINUOUS

FIRST LINK = LOGICAL LINE 10

AN/UGC-74/DIPHASE MODEM/MODE II
KG-84A SWITCH SETTINGS

CLOCK:	POS 2	SLAVE
DATA MODE:	POS 5	WIRELINE CONDITIONED
STEP PULSE INTERVAL:	POS 1,+0	OFF
TTY MODE:	POS 1	AUTO RESYNC
DATE RATE RX/TX:	A 8	1200
INTERFACE:	POS 2	CA ON
DATA LENGTH:	POS 10	ASCII, 1 STOP BIT
SYNC MODE:	POS 2	RED; A/S
COMM MODE:	POS 1	FULL DUPLEX
XVAR	POS 1	

AN/TYC-39

KG-82	POS 2	DEDICATED
DIPHASE MODEM	J11-J12	MASTER
	J2-3,5-6,8-9	1200

AN/UGC-74 SETUP

MODE:	II
CODE SPEED:	ASCII 1200 BAUD
PARITY:	ASCII ODD PARITY
STATE:	ICT
REC/XMIT:	LO DATA
SIGNAL:	NRZ

AN/UGC-144/KG-84A/DIPHASE MODEM/MODE I/NON-DACB INTERFACE

KG-84A SWITCH SETTINGS

CLOCK:	POS 2	SLAVE
DATA MODE:	POS 5	WIRELINE CONDITIONED
STEP PULSE INTERVAL:	POS 1,+0	OFF
TTY MODE:	POS 1	AUTO RESYNC
DATE RATE RX/TX:	B 1	2400
INTERFACE:	POS 2	CA ON
DATA LENGTH:	POS 10	SYNCHRONOUS
SYNC MODE:	POS 2	RED; A/S
COMM MODE:	POS 1	FULL DUPLEX

XVAR	POS	

AN/TYC-39

KG-82	POS 2	DEDICATED
DIPHASE MODEM	J11-J12	MASTER
	J2-3,5-6,9-10	2400

AN/UGC-144 SSI SETUP

MASTER/SLAVE:	SLAVE
DACB PROTOCOL:	OFF
CHANNEL CONTROL:	MODE I CONT
MESSAGE CODE/PARITY:	ASCII ODD PARITY
LOOP RATE:	2400
DATA RATE:	2400
ERROR CONTROL:	MULTISAMPLING
SSI INTERFACE:	DLED
AUTO RESYNC:	ON
CLOCK SOURCE:	EXTERNAL
EXT CLOCK POLARITY:	POSITIVE
TRANSMIT SIG SENSE:	MARK POSITIVE
RECEIVE SIG SENSE:	MARK POSITIVE
SERIAL DATA CODE:	NRZ
NO. OF STOP BITS:	N/A
DATA MODE CONTROL:	OFF
MODE VI STORAGE BLKS:	NONE
MODE I ANSWER TIMER:	2 SECS

AN/UGC-144/KG-84A/DIPHASE MODEM/MODE VI/DACB INTERFACE

KG-84A SWITCH SETTINGS

CLOCK:	POS 2	SLAVE
DATA MODE:	POS 5	WIRELINE CONDITIONED
STEP PULSE INTERVAL:	POS 1,+0	OFF
TTY MODE:	POS 1	AUTO RESYNC
DATE RATE RX/TX:	B 4	9600
INTERFACE:	POS 2	CA ON
DATA LENGTH:	POS SYNC	SYNCHRONOUS
SYNC MODE:	POS 2	RED; A/S
COMM MODE:	POS 1	FULL DUPLEX
XVAR	POS	

KG-82	POS 2	DEDICATED
DIPHASE MODEM	J11-J12	MASTER
	J2-3,6-7,9-10	9600

AN/UGC-144 SSI SETUP

MASTER/SLAVE:	MASTER
DACB PROTOCOL:	ON
CHANNEL CONTROL:	MODE VI
MESSAGE CODE/PARITY:	ASCII ODD PARITY
LOOP RATE:	9600
DATA RATE:	2400
ERROR CONTROL:	MULTISAMPLING
SSI INTERFACE:	DLED
AUTO RESYNC:	OFF
CLOCK SOURCE:	INTERNAL
EXT CLOCK POLARITY:	POSITIVE
TRANSMIT SIG SENSE:	MARK POSITIVE
RECEIVE SIG SENSE:	MARK POSITIVE
SERIAL DATA CODE:	NRZ
NO. OF STOP BITS:	1
DATA MODE CONTROL:	ON
MODE VI STORAGE BLKS:	96
MODE I ANSWER TIMER:	DEFAULT

AN/UGC-144/KG-84A/DIPHASE MODEM/MODE I/DACB INTERFACE

KG-84A SWITCH SETTINGS

CLOCK:	POS 2	SLAVE
DATA MODE:	POS 5	WIRELINE CONDITIONED
STEP PULSE INTERVAL:	POS 1,+0	OFF
TTY MODE:	POS 1	AUTO RESYNC
DATE RATE RX/TX:	B 1	2400
INTERFACE:	POS 2	CA ON
DATA LENGTH:	POS SYNC	SYNCHRONOUS
SYNC MODE:	POS 2	RED; A/S
COMM MODE:	POS 1	FULL DUPLEX
XVAR	POS 1	

KG-82	POS 2	DEDICATED
DIPHASE MODEM	J11-J12	MASTER
	J2-3,5-6,9-10	2400

AN/UGC-144 SSI SETUP

MASTER/SLAVE:	SLAVE
DACB PROTOCOL:	ON
CHANNEL CONTROL:	MODE I CONT
MESSAGE CODE/PARITY:	ASCII ODD PARITY
LOOP RATE:	2400
DATA RATE:	2400
SSI INTERFACE:	DLED
AUTO RESYNC:	OFF
CLOCK SOURCE:	INTERNAL
EXT CLOCK POLARITY:	POSITIVE
TRANSMIT SIG SENSE:	MARK POSITIVE
RECEIVE SIG SENSE:	MARK POSITIVE
SERIAL DATA CODE:	NRZ
NO. OF STOP BITS:	N/A
DATA MODE CONTROL:	ON
MODE VI STORAGE BLKS:	NONE
MODE I ANSWER TIMER:	2 SECS

MESSAGE SWITCH TO MESSAGE SWITCH CONTIGENCY LINE

AN/TYC-39A - 02

LINE 10

KG-82	POS 2	DEDICATED
DIPHASE	J12-13	SLAVE
	J2-3,6-7,9-10	9600

LINE 11

KG-82	POS 02	DEDICATED
DIPHASE	J12-13	MASTER
	J2-3, 6-7,9-10	9600

AN/TYC-39A - 08

LINE 10

KG-82	POS 2	DEDICATED
DIPHASE	J11-12	SLAVE
	J2-3,6-7,9-10	9600

LINE 11

KG-82	POS 02	DEDICATED
DIPHASE	J11-12	MASTER

AN/UGC-144/KY-68/MODE V1/DACB INTERFACE
MESSAGE SWITCH TO CIRCUIT SWITCH (AN/TTC-39D(PS))

AN/UGC-144 SSI SETUP

MASTER/SLAVE:	MASTER
DACB PROTOCOL:	ON
CHANNEL CONTROL:	MODE VI
MESSAGE CODE/PARITY:	ASCII ODD PARITY
LOOP RATE:	16000
DATA RATE:	2400
ERROR CONTROL:	MULTISAMPLING
SSI INTERFACE:	KY68 or TA1042
AUTO RESYNC:	OFF
CLOCK SOURCE:	INTERNAL
EXT CLOCK POLARITY:	POSITIVE
TRANSMIT SIG SENSE:	MARK POSITIVE
RECEIVE SIG SENSE:	MARK POSITIVE
SERIAL DATA CODE:	NRZ
NO. OF STOP BITS:	1
DATA MODE CONTROL:	ON
MODE VI STORAGE BLKS:	96
MODE I ANSWER TIMER:	DEFAULT

AN/UGC-144/KY-68/MODE V1/DACB INTERFACE
MESSAGE SWITCH TO CIRCUIT SWITCH (AN/TTC-39A(V4)

AN/UGC-144 SSI SETUP

MASTER/SLAVE:	MASTER
DACB PROTOCOL:	ON
CHANNEL CONTROL:	MODE VI
MESSAGE CODE/PARITY:	ASCII ODD PARITY
LOOP RATE:	32000
DATA RATE:	2400
ERROR CONTROL:	MULTISAMPLING
SSI INTERFACE:	KY68 or TA1042
AUTO RESYNC:	OFF
CLOCK SOURCE:	INTERNAL
EXT CLOCK POLARITY:	POSITIVE
TRANSMIT SIG SENSE:	MARK POSITIVE
RECEIVE SIG SENSE:	MARK POSITIVE

SERIAL DATA CODE:	NRZ
NO. OF STOP BITS:	1
DATA MODE CONTROL:	ON
MODE VI STORAGE BLKS:	96
MODE I ANSWER TIMER:	DEFAULT

DATABASE AND INTERCONNECTION (AN/TTC-39D(PS) AND AN/TYC-39A)

INTRODUCTION:

This Practical exercise will aid you in assigning an AN/TTC-39D(PS) to interface with an AN/TYC-39A switch. This database information may have to be modified if you use different information.

PART 1:

Part 1 is AN/TTC-39D(PS) database information for interfacing with a AN/TYC-39A SWITCH. You may have to contact the AN/TYC-39A switch operator(INSTRUCTOR) to provide them with the variables for the KG-82's and Location of the variable in the HUS. The KY-68 telephones that are connected to the AN/UGC-144's must have a "U-NET" and "M" variable.

PART 2:

Part 2 is the AN/TYC-39A database information for interfacing with a AN/TTC-39D(PS) and/or another AN/TYC-39A switch. The operator (Instructor) must obtain a set of variables and locations for each KG-82 and a "U-NET" and "M" variable for each KY-68 telephone that is used with the AN/UGC-144.

NOTE: Variables for the operator to use in the AN/TYC-39A.

You can use ONLY one variable as long as you load the variables in the HUS for the location of each of the variables to be used.

EXAMPLE:

a.	**880 variable**	**Turn CMD 75 push button, 75 appear in the window. Turn switch to address A aod set the thumb wheel to 880 setting. With the kit 15 turned on push the button on the HUS.**
b.	**Rekey ID number**	**The rekey ID number for the KY-68 phone can be done the same**

as above using the same variable. You have to put it in the HUS location for the profile. Example: KY-68, profile 33, rekey ID # 18, but you must add 2, (18+2=20). Enter variable in the HUS location at 20.

c. When you put the variables in the KY-68 for X and U you can use the same variable. Then affiliate the KY-68 8R,personal code, telephone number, hang-up receiver. Check to see if the can place a call.

Database Interface Information

1. EQUIPMENT from: AN/TTC-39D(PS) switch.

2. EQUIPMENT to: AN/TYC-39A switch.

3. LOCATION of Switch: _____

STEP 1.

SCREEN

ASSIGN/DISPLAY SWITCH CLASSMARKS **(ASC)**

N	ALTERNATE ROUTING (Y=YES, N=NO)
Y	GATEWAY CLASSMARK (Y=YES, N=N0)
	NN CODE FOR TTC-30 TRUNKS
2	SATELLITE LINKS (1-4)
914	NATO HOME AREA (9YX)
	SWITCH SUPERVISOR LOOP DIGITS *
N	CSCE AUTO CALL (Y=YES, N=NO)
N	CSCE PERIODIC TRAFFIC METERS (Y=YES, N=NO)
O	CSCE ALARMS CATEGORY (O=NO ALARMS, 1-CAT 1, 2=CAT 1&2, 3=CAT 1,2&3)
N	PERIODIC REPORT PRINT (Y=YES, N=NO)
	PASSWORD FOR REMOTE ACCESS
	ASSIGNMENT CODE

NOTE: If all Switches are in the same International area code (NATO HOME) and in the same national area code you only have to dial the 7 digit phone number.

If you are in different International area (NATO HOME) you will have to dial the International area code, national area code and the 7 digit phone number.

If you are in the same international area code but different national area code, you dial the national area code and the 7 digit phone number.

NOTE: **Must use MODULATE 9, and 1 NCMD(#36)**

STEP 2.

SCREEN

ASSIGN DIGITAL TRANSMISSION GROUP **(ADT)**

A	ACTION (A=ADD, D=DELETE, M=MOFIFY)FIRST SCREEN
6	DTG NUMBER (1-30)
	KEY XMIT FOR DELETE OR MODIFY
36	START NCMD NUMBER (1-36)
36	END NCMD NUMBER (1-36)
0	TED (0-15, 0=NONE)
N	SYNC DELAY (Y=YES, N=NO)
16	DTG CHANNEL RATE (16/32 KB/s)
144	GROUP RATE
1	MULTIPLEX SIGNAL FORMAT
	SUBGROUP 1 RATE
	SUBGROUP 2 RATE
	SUBGROUP 3 RATE
	SUBGROUP 4 RATE
	ASSIGNMENT CODE

ASSIGN DIGITAL TRANSMISSION GROUP **(ADT)**FINAL SCREEN

I	IN OR OUT OF SERVICE (I OR O)
4	MODULATOR CABLE LENGTH (0=0, 1-1/4, 2=1/2, 3=3/4, 4=1 MILE)
1	DEMODULATOR CABLE LENGTH(0=0, 1-1/4, 2=1/2, 3=3/4, 4=1 MILE)
1	MODULATION (1=DIPHASE, 2=DIPULSE, 3=UNMODULATED)
N	DTG REPEATER MODE (Y=YES, N=NO)
N	ORDERWIRE CONTROL UNIT-II MODEM (Y=YES, N=NO)
Y	RED GROUP CLOCK (Y=YES, N=NO)

NOTE: 1. IF TED = 0, THE RED CLOCK SHOULD BE "YES"
2. IF TED = 1 thur 15, THE RED CLOCK SHOULD BE "NO"

STEP 3.

NOTE: THE ATG SCREEN MUST BE USED TO ASSIGN THE PRIMARY SIGNALING CHANNEL ADDRESS FOR THE MESSAGE SWITCH DTG.

ASSIGN TRUNK GROUP CLUSTER **(ATG)** SCREEN 1

A	ACTION (A=ADD, M=MODIFY, D=DELETE)
41	TRUNK GROUP CLUSTER NUMBER (1-16, **41-127**)
	KEY XMIT FOR MODIFY OR DELETE
I	TGC TYPE (C-COMMER.,**I=INTERSW**.,P=PBX,D=SB-3865,N=DIG,NATO,O=OTHER)
Y	SPILL FORWARD (Y=YES, N=NO)
801	DESTINATION CODE (NYX)
0	ZONE RESTRICTION (0-8)
Y	ACCESS TRUNK GROUP (Y=YES, N=NO)
N	TRAFFIC LIMITATIONS (Y=YES, N=NO)
	IF YES, SET NUMBER OF TRUNKS FOR FOLLOWING:
	FLASH
	IMMEDIATE
	PRIORITY
	ROUTINE

ASSIGN TRUNL GROUP CLUSTER **(ATG)** FINAL SCREEN

A	GLARE (A= ACCEPT, R= REJECT)
4	TGC TYPE (1=HOME AREA, 2=MSE/39D AREA, 3=39A, **4=MESSAGE SWITCH**)
7	TSB NUMBER (ANALOG = 3-4, **DIGITAL = 1-30**)
01-06	TDMX ADDRESS OF **TSB**
	TDMX ADDRESS OF RSS SIGNALING CHANNEL
06-53	TDMX ADDRESS OF **PRIMARY SIGNALING CHANNEL**
	TDMX ADDRESS OF SECONDARY SIGNALING CHANNEL 1
	TDMX ADDRESS OF SECONDARY SIGNALING CHANNEL 2
	TDMX ADDRESS OF SECONDARY SIGNALING CHANNEL 3
N	PACKET SWITCH (Y=YES, N=NO, G=GATEWAY, MAY BE BLANK)
N	PACKET SWITCH BYPASS (Y=YES, N=NO, MAY BE BLANK)
	PACKET SWITCH PORT NUMBER (DISPLAY ONLY)
	RSU NUMBER (1-7) (DISPLAY ONLY)
	TDMX ADDRESS OF RSU (DISPLAY ONLY)

NOTE: GLARE>, ONE SWITCH SHOULD BE ACCEPT AND THE OTHER SHOULD BE REJECT

STEP 4.

ATS SCREEN

NOTE: ATS SCREEN IS USED TO ASSIGN THE FIRST TRAFFIC TRUNK A DDRESS (BLUE PRINT).

******** YOU MAY ASSIGN ALL TRUNKS USING THE ATS SCREEN, (one trunk per screen) OR USE THE AMT SCREEN TO INPUT MULTIPLE TRUNKS********

ASSIGN TERMINAL SERVICE **(ATS)** SCREEN 1

A ACTION (A=ADD, D=DELETE, M=MODIFY)
06-54 TERMINAL ADDRESS (XX-XX)
KEY XMIT FOR MODIFY OR DELETE
29 TERMINAL TYPE(1,3,7-9,12,13,15,16,25-83,85-88,99,110,113,114,119,143)
(REQUIRED ON ADD ONLY)
KEY XMIT

ASSIGN TERMINAL SERVICE **(ATS)** FINAL SCREEN

41 TRUNK GROUP CLUSTER NUMBER (1-16, **41**-127)
0 PATH DELAY (0-40 MS)
N SATELLITE TRUNK (Y=YES, N=NO)
I IN/OUT OF SERVICE (I=IN, O=OUT)
1 TRUNK NUMBER (1-155)
Y MS TRUNK (Y=YES, N=NO)
MS TRUNK, ENTER THE FOLLOWING:
0 MS TRUNK CHARACTERISTICS(0, 3-5,7-12,14-15 FOR ANALOG,0 FOR DIGITAL) _____ NET NUMBER FOR DIGITAL MS TRUNK(DISPLAY ONLY-TO ADD,MODIFY,DEL,USE AVL _____ COMSEC ID FOR DIGITAL MS TRUNK (DISPLAY ONLY-TO ADD,MODIFY,DEL,USE AVL IF NOT MS TRUNK ENTER THE FOLLOWING:
DN TRANSMISSION TYPE
AN = ANALOG NON-SECURE DN = DIGITAL NON-SECURE
AS = ANALOG SECURE
N PACKET SWITCH TRUNK (Y=YES, N=NO, **MAY BE BLANK**)

ASSIGN MULTIPLE TRUNKS (AMT)

ASSIGN MULTIPLE TRUNKS (AMT)FOLLOW UP WITH AVL FOR DIBTS AND MS TRUNKS ONE EXTRASWITCH TRUNK ASSIGNED PER ROW

	BLUE PRINT ADDR (X-XX-XX/ XX-XX)	**TGC N0.** (1-127)	**TRNK START ADDR** (X-XX-XX/ XX-XX)	**NO.OF TRNKS** (1-255)	**START NO. ADAPTER** (1-36)
1.	06-54	41	06-55	4	2
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					

NOTE: YOU MAY SEE YOUR TRUNKS ASSIGN BY PERFORMING **DTR** COMMAND OR **DTG** COMMAND

DISPLAY TRUNK ADDRESSES **(DTR)**

41 TRUNK GROUP CLUSTER NUMBER

TRK NO.	TERMINAL ADDRESS	TRK NO.	TERMINAL ADDRESS	TRK NO.	TERMINAL ADDRESS	TRK NO.	TERMINAL ADDRESS
1.	06-54						
2.	06-55						
3.	06-56						
4.	06-57						
5.	06-58						

NOTE: TYPE DTR AND PUT IN THE TGC NUMBER YOU ASSIGN. YOU SHOULD SEE ALL THE TRUNK AND ADDRESSES.

DTG COMMAND IS USED TO SEE PSC AND PS = N or Y.

STEP 5.

NOTE: THIS PART OF THE EXERCISE IS TO ASSIGN KEY VARIABLE IN THE HUS FOR EACH ADDRESS AND LOCATION.

LOAD A VARIABLE IN YOU KYK-13

"FOR TRAINING PURPOSE ONLY"

**** USE THE SAME VARIABLE FOR EACH ADDRESS AND LOCATION****.
CMD,75 and ADDR 902, to load variable in HUS location.

ASSIGN VARIABLE LOCATION **(AVL)** **THIS IS THE " X " VARIABLE**

A ACTION (A=ADD, M=MODIFY)
START OR STOP
REKEY CYCLE NUMBER (00-99 OR BLANK) CIRK RKVD U T BT
START CODE (COMSEC ID) M RKV CNV X KEY XMIT FOR MODIFY

COMSEC ID	DIR. NO./ BS-LA	TYPE	NET NO.	STATUS	ACTIVE/RESERVE
902	06-54	MSNV	3		
902	06-55	MSNV	3		
902	06-56	MSNV	3		
902	06-57	MSNV	3		
902	06-58	MSNV	3		

STEP 6.

NOTE: USE THE SAME VARIABLE FOR EACH LOCATIONS AND ADDRESSES.
CMD,75 and ADDR 160, must be repeated thur 164 to load variable in HUS location.
THIS IS THE " U " VARIABLE

A ACTION (A=ADD, M=MODIFY)
START OR STOP
REKEY CYCLE NUMBER (00-99 OR BLANK) CIRK RKVD U T BT
START CODE (COMSEC ID) M RKV CNV X KEY XMIT FOR MODIFY

COMSEC ID	DIR. NO./ BS-LA	TYPE	NET NO.	STATUS	ACTIVE/RESERVE
160	06-54	MSRV			
161	06-55	MSRV			
162	06-56	MSRV			
163	06-57	MSRV			
164	06-58	MSRV			

NOTE: EACH AN/TYC-39A, KG-82's MUST HAVE THE SAME VARIABLE LOADED AS THE AN/TTC-39D(PS) AKDC..

NOTE: Test trunks use AOD,23, 06-54,1 ENTER. or AOD,23, 06-54, ENTER.
Test KG-82's AOD,34, 1,16 ENTER

STEP 7.

NOTE: YOU MUST ASSIGN THE GATEWAY AREA CODE USE THE AGC COMMAND.

SCREEN

ASSIGN GATEWAY AND COMMERCIAL OFFICE ROUTING **(AGC)**

A ACTION (A=ADD, M=MODIFY, D=DELETE)
914801 INTERFACE ID (999999) FOR COMMERCIAL OFFICE, 9YXWXX OTHERWISE)
KEY XMIT FOR DELETE OR MODIFY
S NATO DESIGNATION (S OR T)
41 PRIMARY TGC
ALTERNATE 1
ALTERNATE 2

NOTE: THE FIRST THREE NUMBERS OF THE INTERNATIONAL AREA CODE 914 (NATO HOME) IS FOR THE AN/TTC-39D(PS) SWITCH.

THE SECOND THREE NUMBERS OF THE NATIONAL AREA CODE 801 IS FOR THE AN/TYC-39A SWITCH.

IF YOU ARE USING MORE THAN ONE SWITCH YOU WILL HAVE TO ASSIGN A NATIONAL AREA CODE TO EACH SWITCH YOU ARE CONNECTED TO OUTSIDE
YOUR NYX AREA CODE.

SCREEN

ASSIGN NYX ROUTING **(ANY)**

A	ACTION (A=ADD, M=MODIFY, D=DELETE)
814	NYX CODE
	KEY XMIT FOR DELETE OR MODIFY
H	HOME/FOREIGN CLASSMARK (H OR F)
	NATO DESIGNATION (S OR T)
	PRIMARY TGC
	ALTERNATE 1
	ALTERNATE 2
	ALTERNATE 3
	ALTERNATE 4
	ALTERNATE 5

SUBJECT: The following procedures are one way of ASSIGNING A KY-68 FOR 16 KB/s AND MULT-MODE AFTER APL ASSIGNMENT, "U-NET" KEY IS DETERMINED BY PROFILE NUMBER AND THE "U-NET" AND "M" KEYS ARE ISSUED BY THE AN/TTC-39D(PS)

SCREEN

ASSIGN PRE-AFFILIATION LIST **(APL)**

2	ACTION (1=LIST, 2=SINGLE SUBSCRIBER)
	FOR LIST
	LIST NUMBER (1-999)
	FOR SINGLE SUBSCRIBER
1505303	DIRECTORY NUMBER (LNXXXXX)
33	PROFILE INDEX (1-63)(Profile must be for a MULT-MODE PHONE)

NOTE: You can get the PROFILE NUMBER from the DDN SCREEN and the REKEY ID NUMBER to get the variable for the KY-68. Always remember to add 2 to the REKEY ID number. EXAMPLE: 18+2=20 20 IS THE LOCATION OF THE VARIABLE IN THE HUS.

Get the "U" Variable and the "M" Variable from the HUS and give it to the AN/TYC-39A personnel to Load in the KY-68 and they can AFFILIATE the KY-68 phone from their location.

You can use the ATS command to see if the KY-68 is assigned and marked in service. TYPE ATS, M, and ADDRESS this will tell you if the phone is assigned and in service. You can use the DDN or DSD to determine the address.

The KY-68 phone is used as the secure device for the AN/UGC-144.

THINGS TO CHECK IF NOT WORKING

1. PERFORM A TEST ON ALL MESSAGE SWITCH TRUNK ADDRESSES USING AOD,23 COMMAND.

   MS TRUNK bs-la,DSG k,KG-82nn,STATUS ss,FAILEDee, (AOD 23)
   (TM 11-5805-778-12-5-2, paragraph 10-64) or Quick Ref: page 1-26.